SEQUENCE LISTING

<110> BURTON, Paul B. J.
DEISHER, Theresa A.

<120> COMPOSITIONS AND METHODS FOR TREATING CARDIOVASCULAR DISEASE

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<140> -to be assigned-
<141> 2003-08-21

<150> --to be assigned--
<151> 2003-08-12

<150> 60/406,418
<151> 2002-08-28

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<170> PatentIn version 3.2

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Pro Glu Arg Tyr Pro Ser Val Ile Trp Glu Ala Lys Cys Arg His Leu
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ccc aac tcc ttc cgg ctg gag aag ata ctg gtg tcc gtg ggc tgc acc      488
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Asp Tyr Tyr Asn Arg Ser Thr Ser Pro Trp Asn Leu His Arg Asn Glu
65                  70                  75                  80

Asp Pro Glu Arg Tyr Pro Ser Val Ile Trp Glu Ala Lys Cys Arg His
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Leu Gly Cys Ile Asn Ala Asp Gly Asn Val Asp Tyr His Met Asn Ser
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                                      1               5

ccg tcc gct gtc ccg ggg ccc ctg ctg ggg ctg ctc ctg ctg ctc ctg       161
Pro Ser Ala Val Pro Gly Pro Leu Leu Gly Leu Leu Leu Leu Leu Leu
        10                  15                  20
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Gly Val Leu Ala Pro Gly Gly Ala Ser Leu Arg Leu Leu Asp His Arg
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gcg ctg gtc tgc tcc cag ccg ggg cta aac tgc acg gtc aag aat agt      257
Ala Leu Val Cys Ser Gln Pro Gly Leu Asn Cys Thr Val Lys Asn Ser
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acc tgc ctg gat gac agc tgg att cac cct cga aac ctg acc ccc tcc      305
Thr Cys Leu Asp Asp Ser Trp Ile His Pro Arg Asn Leu Thr Pro Ser
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tcc cca aag gac ctg cag atc cag ctg cac ttt gcc cac acc caa caa      353
Ser Pro Lys Asp Leu Gln Ile Gln Leu His Phe Ala His Thr Gln Gln
            75                  80                  85

gga gac ctg ttc ccc gtg gct cac atc gaa tgg aca ctg cag aca gac      401
Gly Asp Leu Phe Pro Val Ala His Ile Glu Trp Thr Leu Gln Thr Asp
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gcc agc atc ctg tac ctc gag ggt gca gag tta tct gtc ctg cag ctg      449
Ala Ser Ile Leu Tyr Leu Glu Gly Ala Glu Leu Ser Val Leu Gln Leu
    105                 110                 115

aac acc aat gaa cgt ttg tgc gtc agg ttt gag ttt ctg tcc aaa ctg      497
Asn Thr Asn Glu Arg Leu Cys Val Arg Phe Glu Phe Leu Ser Lys Leu
120                 125                 130                 135

agg cat cac cac agg cgg tgg cgt ttt acc ttc agc cac ttt gtg gtt      545
Arg His His His Arg Arg Trp Arg Phe Thr Phe Ser His Phe Val Val
                140                 145                 150

gac cct gac cag gaa tat gag gtg acc gtt cac cac ctg ccc aag ccc      593
Asp Pro Asp Gln Glu Tyr Glu Val Thr Val His His Leu Pro Lys Pro
            155                 160                 165

atc cct gat ggg gac cca aac cac cag tcc aag aat ttc ctt gtg cct      641
Ile Pro Asp Gly Asp Pro Asn His Gln Ser Lys Asn Phe Leu Val Pro
        170                 175                 180

gac tgt gag cac gcc agg atg aag gta acc acg cca tgc atg agc tca      689
Asp Cys Glu His Ala Arg Met Lys Val Thr Thr Pro Cys Met Ser Ser
    185                 190                 195

ggc agc ctg tgg gac ccc aac atc acc gtg gag acc ctg gag gcc cac      737
Gly Ser Leu Trp Asp Pro Asn Ile Thr Val Glu Thr Leu Glu Ala His
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cag ctg cgt gtg agc ttc acc ctg tgg aac gaa tct acc cat tac cag      785
Gln Leu Arg Val Ser Phe Thr Leu Trp Asn Glu Ser Thr His Tyr Gln
                220                 225                 230

atc ctg ctg acc agt ttt ccg cac atg gag aac cac agt tgc ttt gag      833
Ile Leu Leu Thr Ser Phe Pro His Met Glu Asn His Ser Cys Phe Glu
            235                 240                 245

cac atg cac cac ata cct gcg ccc aga cca gaa gag ttc cac cag cga      881
His Met His His Ile Pro Ala Pro Arg Pro Glu Glu Phe His Gln Arg
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tcc aac gtc aca ctc act cta cgc aac ctt aaa ggg tgc tgt cgc cac      929
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caa gtg cag atc cag ccc ttc ttc agc agc tgc ctc aat gac tgc ctc      977
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aga cac tcc gcg act gtt tcc tgc cca gaa atg cca gac act cca gaa      1025
Arg His Ser Ala Thr Val Ser Cys Pro Glu Met Pro Asp Thr Pro Glu
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cca att ccg gac tac atg ccc ctg tgg gtg tac tgg ttc atc acg ggc      1073
Pro Ile Pro Asp Tyr Met Pro Leu Trp Val Tyr Trp Phe Ile Thr Gly
            315                 320                 325

atc tcc atc ctg ctg gtg ggc tcc gtc atc ctg ctc atc gtc tgc atg      1121
Ile Ser Ile Leu Leu Val Gly Ser Val Ile Leu Leu Ile Val Cys Met
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acc tgg agg cta gct ggg cct gga agt gaa aaa tac agt gat gac acc      1169
Thr Trp Arg Leu Ala Gly Pro Gly Ser Glu Lys Tyr Ser Asp Asp Thr
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aaa tac acc gat ggc ctg cct gcg gct gac ctg atc ccc cca ccg ctg      1217
Lys Tyr Thr Asp Gly Leu Pro Ala Ala Asp Leu Ile Pro Pro Pro Leu
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aag ccc agg aag gtc tgg atc atc tac tca gcc gac cac ccc ctc tac      1265
Lys Pro Arg Lys Val Trp Ile Ile Tyr Ser Ala Asp His Pro Leu Tyr
                380                 385                 390

gtg gac gtg gtc ctg aaa ttc gcc cag ttc ctg ctc acc gcc tgc ggc      1313
Val Asp Val Val Leu Lys Phe Ala Gln Phe Leu Leu Thr Ala Cys Gly
            395                 400                 405

acg gaa gtg gcc ctg gac ctg ctg gaa gag cag gcc atc tcg gag gca      1361
Thr Glu Val Ala Leu Asp Leu Leu Glu Glu Gln Ala Ile Ser Glu Ala
        410                 415                 420

gga gtc atg acc tgg gtg ggc cgt cag aag cag gag atg gtg gag agc      1409
Gly Val Met Thr Trp Val Gly Arg Gln Lys Gln Glu Met Val Glu Ser
    425                 430                 435

aac tct aag atc atc gtc ctg tgc tcc cgc ggc acg cgc gcc aag tgg      1457
Asn Ser Lys Ile Ile Val Leu Cys Ser Arg Gly Thr Arg Ala Lys Trp
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cag gcg ctc ctg ggc cgg ggg gcg cct gtg cgg ctg cgc tgc gac cac      1505
Gln Ala Leu Leu Gly Arg Gly Ala Pro Val Arg Leu Arg Cys Asp His
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gga aag ccc gtg ggg gac ctg ttc act gca gcc atg aac atg atc ctc      1553
Gly Lys Pro Val Gly Asp Leu Phe Thr Ala Ala Met Asn Met Ile Leu
            475                 480                 485

ccg gac ttc aag agg cca gcc tgc ttc ggc acc tac gta gtc tgc tac      1601
Pro Asp Phe Lys Arg Pro Ala Cys Phe Gly Thr Tyr Val Val Cys Tyr
        490                 495                 500

ttc agc gag gtc agc tgt gac ggc gac gtc ccc gac ctg ttc ggc gcg      1649
Phe Ser Glu Val Ser Cys Asp Gly Asp Val Pro Asp Leu Phe Gly Ala
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atc cag gac ctg gag atg ttc cag ccg ggc cgc atg cac cgc gta ggg     1745
Ile Gln Asp Leu Glu Met Phe Gln Pro Gly Arg Met His Arg Val Gly
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gag ctg tcg ggg gac aac tac ctg cgg agc ccg ggc ggc agg cag ctc     1793
Glu Leu Ser Gly Asp Asn Tyr Leu Arg Ser Pro Gly Gly Arg Gln Leu
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cgc gcc gcc ctg gac agg ttc cgg gac tgg cag gtc cgc tgt ccc gac     1841
Arg Ala Ala Leu Asp Arg Phe Arg Asp Trp Gln Val Arg Cys Pro Asp
        570                 575                 580

tgg ttc gaa tgt gag aac ctc tac tca gca gat gac cag gat gcc ccg     1889
Trp Phe Glu Cys Glu Asn Leu Tyr Ser Ala Asp Asp Gln Asp Ala Pro
    585                 590                 595

tcc ctg gac gaa gag gtg ttt gag gag cca ctg ctg cct ccg gga acc     1937
Ser Leu Asp Glu Glu Val Phe Glu Glu Pro Leu Leu Pro Pro Gly Thr
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ggc atc gtg aag cgg gcg ccc ctg gtg cgc gag cct ggc tcc cag gcc     1985
Gly Ile Val Lys Arg Ala Pro Leu Val Arg Glu Pro Gly Ser Gln Ala
                620                 625                 630

tgc ctg gcc ata gac ccg ctg gtc ggg gag gaa gga gga gca gca gtg     2033
Cys Leu Ala Ile Asp Pro Leu Val Gly Glu Glu Gly Gly Ala Ala Val
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gca aag ctg gaa cct cac ctg cag ccc cgg ggt cag cca gcg ccg cag     2081
Ala Lys Leu Glu Pro His Leu Gln Pro Arg Gly Gln Pro Ala Pro Gln
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ccc ctc cac acc ctg gtg ctc gcc gca gag gag ggg gcc ctg gtg gcc     2129
Pro Leu His Thr Leu Val Leu Ala Ala Glu Glu Gly Ala Leu Val Ala
    665                 670                 675

gcg gtg gag cct ggg ccc ctg gct gac ggt gcc gca gtc cgg ctg gca     2177
Ala Val Glu Pro Gly Pro Leu Ala Asp Gly Ala Ala Val Arg Leu Ala
680                 685                 690                 695

ctg gcg ggg gag ggc gag gcc tgc ccg ctg ctg ggc agc ccg ggc gct     2225
Leu Ala Gly Glu Gly Glu Ala Cys Pro Leu Leu Gly Ser Pro Gly Ala
                700                 705                 710

ggg cga aat agc gtc ctc ttc ctc ccc gtg gac ccc gag gac tcg ccc     2273
Gly Arg Asn Ser Val Leu Phe Leu Pro Val Asp Pro Glu Asp Ser Pro
            715                 720                 725

ctt ggc agc agc acc ccc atg gcg tct cct gac ctc ctt cca gag gac     2321
Leu Gly Ser Ser Thr Pro Met Ala Ser Pro Asp Leu Leu Pro Glu Asp
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gtg agg gag cac ctc gaa ggc ttg atg ctc tcg ctc ttc gag cag agt     2369
Val Arg Glu His Leu Glu Gly Leu Met Leu Ser Leu Phe Glu Gln Ser
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aca gac cca cac acg ccc tac gag gag gag cag cgg cag tca gtg cag     2465
Thr Asp Pro His Thr Pro Tyr Glu Glu Glu Gln Arg Gln Ser Val Gln
                780                 785                 790

tct gac cag ggc tac atc tcc agg agc tcc ccg cag ccc ccc gag gga     2513
Ser Asp Gln Gly Tyr Ile Ser Arg Ser Ser Pro Gln Pro Pro Glu Gly
            795                 800                 805

ctc acg gaa atg gag gaa gag gag gaa gag gag cag gac cca ggg aag     2561
Leu Thr Glu Met Glu Glu Glu Glu Glu Glu Glu Gln Asp Pro Gly Lys
        810                 815                 820

ccg gcc ctg cca ctc tct ccc gag gac ctg gag agc ctg agg agc ctc     2609
Pro Ala Leu Pro Leu Ser Pro Glu Asp Leu Glu Ser Leu Arg Ser Leu
    825                 830                 835

cag cgg cag ctg ctt ttc cgc cag ctg cag aag aac tcg ggc tgg gac     2657
Gln Arg Gln Leu Leu Phe Arg Gln Leu Gln Lys Asn Ser Gly Trp Asp
840                 845                 850                 855

acg atg ggg tca gag tca gag ggg ccc agt gca tga gggcggctcc          2703
Thr Met Gly Ser Glu Ser Glu Gly Pro Ser Ala
                860                 865

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Leu Arg Leu Leu Asp His Arg Ala Leu Val Cys Ser Gln Pro Gly Leu
35 40 45

Asn Cys Thr Val Lys Asn Ser Thr Cys Leu Asp Asp Ser Trp Ile His
50 55 60

Pro Arg Asn Leu Thr Pro Ser Ser Pro Lys Asp Leu Gln Ile Gln Leu
65 70 75 80

His Phe Ala His Thr Gln Gln Gly Asp Leu Phe Pro Val Ala His Ile
85 90 95

Glu Trp Thr Leu Gln Thr Asp Ala Ser Ile Leu Tyr Leu Glu Gly Ala
100 105 110

Glu Leu Ser Val Leu Gln Leu Asn Thr Asn Glu Arg Leu Cys Val Arg
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Phe Glu Phe Leu Ser Lys Leu Arg His His His Arg Arg Trp Arg Phe
130 135 140

Thr Phe Ser His Phe Val Val Asp Pro Asp Gln Glu Tyr Glu Val Thr
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Val His His Leu Pro Lys Pro Ile Pro Asp Gly Asp Pro Asn His Gln
165 170 175

Ser Lys Asn Phe Leu Val Pro Asp Cys Glu His Ala Arg Met Lys Val
180 185 190

Thr Thr Pro Cys Met Ser Ser Gly Ser Leu Trp Asp Pro Asn Ile Thr
195 200 205

Val Glu Thr Leu Glu Ala His Gln Leu Arg Val Ser Phe Thr Leu Trp
210 215 220

Asn Glu Ser Thr His Tyr Gln Ile Leu Leu Thr Ser Phe Pro His Met
225 230 235 240

Glu Asn His Ser Cys Phe Glu His Met His His Ile Pro Ala Pro Arg
245 250 255

Pro Glu Glu Phe His Gln Arg Ser Asn Val Thr Leu Thr Leu Arg Asn
260 265 270

Leu Lys Gly Cys Cys Arg His Gln Val Gln Ile Gln Pro Phe Phe Ser
275 280 285

Ser Cys Leu Asn Asp Cys Leu Arg His Ser Ala Thr Val Ser Cys Pro
290 295 300

Glu Met Pro Asp Thr Pro Glu Pro Ile Pro Asp Tyr Met Pro Leu Trp
305 310 315 320

Val Tyr Trp Phe Ile Thr Gly Ile Ser Ile Leu Leu Val Gly Ser Val
325 330 335

Ile Leu Leu Ile Val Cys Met Thr Trp Arg Leu Ala Gly Pro Gly Ser
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Glu Lys Tyr Ser Asp Asp Thr Lys Tyr Thr Asp Gly Leu Pro Ala Ala

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Asp Leu Ile Pro Pro Pro Leu Lys Pro Arg Lys Val Trp Ile Ile Tyr
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Ser Ala Asp His Pro Leu Tyr Val Asp Val Val Leu Lys Phe Ala Gln
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Phe Leu Leu Thr Ala Cys Gly Thr Glu Val Ala Leu Asp Leu Leu Glu
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Glu Gln Ala Ile Ser Glu Ala Gly Val Met Thr Trp Val Gly Arg Gln
            420                 425                 430

Lys Gln Glu Met Val Glu Ser Asn Ser Lys Ile Ile Val Leu Cys Ser
        435                 440                 445

Arg Gly Thr Arg Ala Lys Trp Gln Ala Leu Leu Gly Arg Gly Ala Pro
    450                 455                 460

Val Arg Leu Arg Cys Asp His Gly Lys Pro Val Gly Asp Leu Phe Thr
465                 470                 475                 480

Ala Ala Met Asn Met Ile Leu Pro Asp Phe Lys Arg Pro Ala Cys Phe
                485                 490                 495

Gly Thr Tyr Val Val Cys Tyr Phe Ser Glu Val Ser Cys Asp Gly Asp
            500                 505                 510

Val Pro Asp Leu Phe Gly Ala Ala Pro Arg Tyr Pro Leu Met Asp Arg
        515                 520                 525

Phe Glu Glu Val Tyr Phe Arg Ile Gln Asp Leu Glu Met Phe Gln Pro
    530                 535                 540

Gly Arg Met His Arg Val Gly Glu Leu Ser Gly Asp Asn Tyr Leu Arg
545                 550                 555                 560

Ser Pro Gly Gly Arg Gln Leu Arg Ala Ala Leu Asp Arg Phe Arg Asp
                565                 570                 575

Trp Gln Val Arg Cys Pro Asp Trp Phe Glu Cys Glu Asn Leu Tyr Ser
            580                 585                 590

Ala Asp Asp Gln Asp Ala Pro Ser Leu Asp Glu Glu Val Phe Glu Glu
        595                 600                 605

Pro Leu Leu Pro Pro Gly Thr Gly Ile Val Lys Arg Ala Pro Leu Val
    610                 615                 620

Arg Glu Pro Gly Ser Gln Ala Cys Leu Ala Ile Asp Pro Leu Val Gly
625                 630                 635                 640

Glu Glu Gly Gly Ala Ala Val Ala Lys Leu Glu Pro His Leu Gln Pro
                645                 650                 655

Arg Gly Gln Pro Ala Pro Gln Pro Leu His Thr Leu Val Leu Ala Ala
            660                 665                 670

Glu Glu Gly Ala Leu Val Ala Ala Val Glu Pro Gly Pro Leu Ala Asp
        675                 680                 685
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Gly Ala Ala Val Arg Leu Ala Leu Ala Gly Glu Gly Glu Ala Cys Pro
    690                 695                 700

Leu Leu Gly Ser Pro Gly Ala Gly Arg Asn Ser Val Leu Phe Leu Pro
705                 710                 715                 720

Val Asp Pro Glu Asp Ser Pro Leu Gly Ser Ser Thr Pro Met Ala Ser
                725                 730                 735

Pro Asp Leu Leu Pro Glu Asp Val Arg Glu His Leu Glu Gly Leu Met
            740                 745                 750

Leu Ser Leu Phe Glu Gln Ser Leu Ser Cys Gln Ala Gln Gly Gly Cys
        755                 760                 765

Ser Arg Pro Ala Met Val Leu Thr Asp Pro His Thr Pro Tyr Glu Glu
    770                 775                 780

Glu Gln Arg Gln Ser Val Gln Ser Asp Gln Gly Tyr Ile Ser Arg Ser
785                 790                 795                 800

Ser Pro Gln Pro Pro Glu Gly Leu Thr Glu Met Glu Glu Glu Glu Glu
                805                 810                 815

Glu Glu Gln Asp Pro Gly Lys Pro Ala Leu Pro Leu Ser Pro Glu Asp
            820                 825                 830

Leu Glu Ser Leu Arg Ser Leu Gln Arg Gln Leu Leu Phe Arg Gln Leu
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Gln Lys Asn Ser Gly Trp Asp Thr Met Gly Ser Glu Ser Glu Gly Pro
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Ser Ala
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1               5                   10                  15

agc act gca gaa tct tgt act tca cgt ccc cac att act gtg gtt gaa       96
Ser Thr Ala Glu Ser Cys Thr Ser Arg Pro His Ile Thr Val Val Glu
            20                  25                  30

ggg gaa cct ttc tat ctg aaa cat tgc tcg tgt tca ctt gca cat gag      144
Gly Glu Pro Phe Tyr Leu Lys His Cys Ser Cys Ser Leu Ala His Glu
        35                  40                  45
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att gaa aca acc acc aaa agc tgg tac aaa agc agt gga tca cag gaa      192
Ile Glu Thr Thr Thr Lys Ser Trp Tyr Lys Ser Ser Gly Ser Gln Glu
    50                  55                  60

cat gtg gag ctg aac cca agg agt tcc tcg aga att gct ttg cat gat      240
His Val Glu Leu Asn Pro Arg Ser Ser Ser Arg Ile Ala Leu His Asp
65                  70                  75                  80

tgt gtt ttg gag ttt tgg cca gtt gag ttg aat gac aca gga tct tac      288
Cys Val Leu Glu Phe Trp Pro Val Glu Leu Asn Asp Thr Gly Ser Tyr
                85                  90                  95

ttt ttc caa atg aaa aat tat act cag aaa tgg aaa tta aat gtc atc      336
Phe Phe Gln Met Lys Asn Tyr Thr Gln Lys Trp Lys Leu Asn Val Ile
            100                 105                 110

aga aga aat aaa cac agc tgt ttc act gaa aga caa gta act agt aaa      384
Arg Arg Asn Lys His Ser Cys Phe Thr Glu Arg Gln Val Thr Ser Lys
        115                 120                 125

att gtg gaa gtt aaa aaa ttt ttt cag ata acc tgt gaa aac agt tac      432
Ile Val Glu Val Lys Lys Phe Phe Gln Ile Thr Cys Glu Asn Ser Tyr
    130                 135                 140

tat caa aca ctg gtc aac agc aca tca ttg tat aag aac tgt aaa aag      480
Tyr Gln Thr Leu Val Asn Ser Thr Ser Leu Tyr Lys Asn Cys Lys Lys
145                 150                 155                 160

cta cta ctg gag aac aat aaa aac cca acg ata aag aag aac gcc gag      528
Leu Leu Leu Glu Asn Asn Lys Asn Pro Thr Ile Lys Lys Asn Ala Glu
                165                 170                 175

ttt gaa gat cag ggg tat tac tcc tgc gtg cat ttc ctt cat cat aat      576
Phe Glu Asp Gln Gly Tyr Tyr Ser Cys Val His Phe Leu His His Asn
            180                 185                 190

gga aaa cta ttt aat atc acc aaa acc ttc aat ata aca ata gtg gaa      624
Gly Lys Leu Phe Asn Ile Thr Lys Thr Phe Asn Ile Thr Ile Val Glu
        195                 200                 205

gat cgc agt aat ata gtt ccg gtt ctt ctt gga cca aag ctt aac cat      672
Asp Arg Ser Asn Ile Val Pro Val Leu Leu Gly Pro Lys Leu Asn His
    210                 215                 220

gtt gca gtg gaa tta gga aaa aac gta agg ctc aac tgc tct gct ttg      720
Val Ala Val Glu Leu Gly Lys Asn Val Arg Leu Asn Cys Ser Ala Leu
225                 230                 235                 240

ctg aat gaa gag gat gta att tat tgg atg ttt ggg gaa gaa aat gga      768
Leu Asn Glu Glu Asp Val Ile Tyr Trp Met Phe Gly Glu Glu Asn Gly
                245                 250                 255

tcg gat cct aat ata cat gaa gag aaa gaa atg aga att atg act cca      816
Ser Asp Pro Asn Ile His Glu Glu Lys Glu Met Arg Ile Met Thr Pro
            260                 265                 270

gaa ggc aaa tgg cat gct tca aaa gta ttg aga att gaa aat att ggt      864
Glu Gly Lys Trp His Ala Ser Lys Val Leu Arg Ile Glu Asn Ile Gly
        275                 280                 285

gaa agc aat cta aat gtt tta tat aat tgc act gtg gcc agc acg gga      912
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Glu Ser Asn Leu Asn Val Leu Tyr Asn Cys Thr Val Ala Ser Thr Gly
    290                 295                 300

ggc aca gac acc aaa agc ttc atc ttg gtg aga aaa gca gac atg gct      960
Gly Thr Asp Thr Lys Ser Phe Ile Leu Val Arg Lys Ala Asp Met Ala
305                 310                 315                 320

gat atc cca ggc cac gtc ttc aca aga gga atg atc ata gct gtt ttg     1008
Asp Ile Pro Gly His Val Phe Thr Arg Gly Met Ile Ile Ala Val Leu
                325                 330                 335

atc ttg gtg gca gta gtg tgc cta gtg act gtg tgt gtc att tat aga     1056
Ile Leu Val Ala Val Val Cys Leu Val Thr Val Cys Val Ile Tyr Arg
            340                 345                 350

gtt gac ttg gtt cta ttt tat aga cat tta acg aga aga gat gaa aca     1104
Val Asp Leu Val Leu Phe Tyr Arg His Leu Thr Arg Arg Asp Glu Thr
        355                 360                 365

tta aca gat gga aaa aca tat gat gct ttt gtg tct tac cta aaa gaa     1152
Leu Thr Asp Gly Lys Thr Tyr Asp Ala Phe Val Ser Tyr Leu Lys Glu
    370                 375                 380

tgc cga cct gaa aat gga gag gag cac acc ttt gct gtg gag att ttg     1200
Cys Arg Pro Glu Asn Gly Glu Glu His Thr Phe Ala Val Glu Ile Leu
385                 390                 395                 400

ccc agg gtg ttg gag aaa cat ttt ggg tat aag tta tgc ata ttt gaa     1248
Pro Arg Val Leu Glu Lys His Phe Gly Tyr Lys Leu Cys Ile Phe Glu
                405                 410                 415

agg gat gta gtg cct gga gga gct gtt gtt gat gaa atc cac tca ctg     1296
Arg Asp Val Val Pro Gly Gly Ala Val Val Asp Glu Ile His Ser Leu
            420                 425                 430

ata gag aaa agc cga aga cta atc att gtc cta agt aaa agt tat atg     1344
Ile Glu Lys Ser Arg Arg Leu Ile Ile Val Leu Ser Lys Ser Tyr Met
        435                 440                 445

tct aat gag gtc agg tat gaa ctt gaa agt gga ctc cat gaa gca ttg     1392
Ser Asn Glu Val Arg Tyr Glu Leu Glu Ser Gly Leu His Glu Ala Leu
    450                 455                 460

gtg gaa aga aaa att aaa ata atc tta att gaa ttt aca cct gtt act     1440
Val Glu Arg Lys Ile Lys Ile Ile Leu Ile Glu Phe Thr Pro Val Thr
465                 470                 475                 480

gac ttc aca ttc ttg ccc caa tca cta aag ctt ttg aaa tct cac aga     1488
Asp Phe Thr Phe Leu Pro Gln Ser Leu Lys Leu Leu Lys Ser His Arg
                485                 490                 495

gtt ctg aag tgg aag gcc gat aaa tct ctt tct tat aac tca agg ttc     1536
Val Leu Lys Trp Lys Ala Asp Lys Ser Leu Ser Tyr Asn Ser Arg Phe
            500                 505                 510

tgg aag aac ctt ctt tac tta atg cct gca aaa aca gtc aag cca ggt     1584
Trp Lys Asn Leu Leu Tyr Leu Met Pro Ala Lys Thr Val Lys Pro Gly
        515                 520                 525

aga gac gaa ccg gaa gtc ttg cct gtt ctt tcc gag tct taa             1626
Arg Asp Glu Pro Glu Val Leu Pro Val Leu Ser Glu Ser
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<213> Homo sapeins

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20 25 30

Gly Glu Pro Phe Tyr Leu Lys His Cys Ser Cys Ser Leu Ala His Glu
35 40 45

Ile Glu Thr Thr Thr Lys Ser Trp Tyr Lys Ser Ser Gly Ser Gln Glu
50 55 60

His Val Glu Leu Asn Pro Arg Ser Ser Ser Arg Ile Ala Leu His Asp
65 70 75 80

Cys Val Leu Glu Phe Trp Pro Val Glu Leu Asn Asp Thr Gly Ser Tyr
85 90 95

Phe Phe Gln Met Lys Asn Tyr Thr Gln Lys Trp Lys Leu Asn Val Ile
100 105 110

Arg Arg Asn Lys His Ser Cys Phe Thr Glu Arg Gln Val Thr Ser Lys
115 120 125

Ile Val Glu Val Lys Lys Phe Phe Gln Ile Thr Cys Glu Asn Ser Tyr
130 135 140

Tyr Gln Thr Leu Val Asn Ser Thr Ser Leu Tyr Lys Asn Cys Lys Lys
145 150 155 160

Leu Leu Leu Glu Asn Asn Lys Asn Pro Thr Ile Lys Lys Asn Ala Glu
165 170 175

Phe Glu Asp Gln Gly Tyr Tyr Ser Cys Val His Phe Leu His His Asn
180 185 190

Gly Lys Leu Phe Asn Ile Thr Lys Thr Phe Asn Ile Thr Ile Val Glu
195 200 205

Asp Arg Ser Asn Ile Val Pro Val Leu Leu Gly Pro Lys Leu Asn His
210 215 220

Val Ala Val Glu Leu Gly Lys Asn Val Arg Leu Asn Cys Ser Ala Leu
225 230 235 240

Leu Asn Glu Glu Asp Val Ile Tyr Trp Met Phe Gly Glu Glu Asn Gly
245 250 255

Ser Asp Pro Asn Ile His Glu Glu Lys Glu Met Arg Ile Met Thr Pro
260 265 270

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Glu Gly Lys Trp His Ala Ser Lys Val Leu Arg Ile Glu Asn Ile Gly
        275                 280                 285

Glu Ser Asn Leu Asn Val Leu Tyr Asn Cys Thr Val Ala Ser Thr Gly
    290                 295                 300

Gly Thr Asp Thr Lys Ser Phe Ile Leu Val Arg Lys Ala Asp Met Ala
305                 310                 315                 320

Asp Ile Pro Gly His Val Phe Thr Arg Gly Met Ile Ile Ala Val Leu
                325                 330                 335

Ile Leu Val Ala Val Val Cys Leu Val Thr Val Cys Val Ile Tyr Arg
            340                 345                 350

Val Asp Leu Val Leu Phe Tyr Arg His Leu Thr Arg Arg Asp Glu Thr
        355                 360                 365

Leu Thr Asp Gly Lys Thr Tyr Asp Ala Phe Val Ser Tyr Leu Lys Glu
    370                 375                 380

Cys Arg Pro Glu Asn Gly Glu Glu His Thr Phe Ala Val Glu Ile Leu
385                 390                 395                 400

Pro Arg Val Leu Glu Lys His Phe Gly Tyr Lys Leu Cys Ile Phe Glu
                405                 410                 415

Arg Asp Val Val Pro Gly Gly Ala Val Val Asp Glu Ile His Ser Leu
            420                 425                 430

Ile Glu Lys Ser Arg Arg Leu Ile Ile Val Leu Ser Lys Ser Tyr Met
        435                 440                 445

Ser Asn Glu Val Arg Tyr Glu Leu Glu Ser Gly Leu His Glu Ala Leu
    450                 455                 460

Val Glu Arg Lys Ile Lys Ile Ile Leu Ile Glu Phe Thr Pro Val Thr
465                 470                 475                 480

Asp Phe Thr Phe Leu Pro Gln Ser Leu Lys Leu Leu Lys Ser His Arg
                485                 490                 495

Val Leu Lys Trp Lys Ala Asp Lys Ser Leu Ser Tyr Asn Ser Arg Phe
            500                 505                 510

Trp Lys Asn Leu Leu Tyr Leu Met Pro Ala Lys Thr Val Lys Pro Gly
        515                 520                 525

Arg Asp Glu Pro Glu Val Leu Pro Val Leu Ser Glu Ser
    530                 535                 540
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ttatgtctta agagcaggaa ataaagagac agctgaaggt gtagccttga ccaactgaaa 180

gggaaatctt catcctctga aaaaacatat gtgattctca aaaaacgcat ctggaaaatt 240

gataaagaag cgattctgta gattctccca gcgctgttgg gctctcaatt ccttctgtga 300

aggacaacat atggtgatgg ggaaatcaga agctttgaga ccctctacac ctggatatga 360

atccccccttc taatacttac cagaaatgaa ggggatactc agggcagagt tctgaatctc 420

aaaacactct actctggcaa aggaatgaag ttattggagt gatgacagga acacgggaga 480

aca atg ctc tgt ttg ggc tgg ata ttt ctt tgg ctt gtt gca gga gag 528
Met Leu Cys Leu Gly Trp Ile Phe Leu Trp Leu Val Ala Gly Glu
1 5 10 15

cga att aaa gga ttt aat att tca ggt tgt tcc aca aaa aaa ctc ctt 576
Arg Ile Lys Gly Phe Asn Ile Ser Gly Cys Ser Thr Lys Lys Leu Leu
20 25 30

tgg aca tat tct aca agg agt gaa gag gaa ttt gtc tta ttt tgt gat 624
Trp Thr Tyr Ser Thr Arg Ser Glu Glu Glu Phe Val Leu Phe Cys Asp
35 40 45

tta cca gag cca cag aaa tca cat ttc tgc cac aga aat cga ctc tca 672
Leu Pro Glu Pro Gln Lys Ser His Phe Cys His Arg Asn Arg Leu Ser
50 55 60

cca aaa caa gtc cct gag cac ctg ccc ttc atg ggt agt aac gac cta 720
Pro Lys Gln Val Pro Glu His Leu Pro Phe Met Gly Ser Asn Asp Leu
65 70 75

tct gat gtc caa tgg tac caa caa cct tcg aat gga gat cca tta gag 768
Ser Asp Val Gln Trp Tyr Gln Gln Pro Ser Asn Gly Asp Pro Leu Glu
80 85 90 95

gac att agg aaa agc tat cct cac atc att cag gac aaa tgt acc ctt 816
Asp Ile Arg Lys Ser Tyr Pro His Ile Ile Gln Asp Lys Cys Thr Leu
100 105 110

cac ttt ttg acc cca ggg gtg aat aat tct ggg tca tat att tgt aga 864
His Phe Leu Thr Pro Gly Val Asn Asn Ser Gly Ser Tyr Ile Cys Arg
115 120 125

ccc aag atg att aag agc ccc tat gat gta gcc tgt tgt gtc aag atg 912
Pro Lys Met Ile Lys Ser Pro Tyr Asp Val Ala Cys Cys Val Lys Met
130 135 140

att tta gaa gtt aag ccc cag aca aat gca tcc tgt gag tat tcc gca 960
Ile Leu Glu Val Lys Pro Gln Thr Asn Ala Ser Cys Glu Tyr Ser Ala
145 150 155

tca cat aag caa gac cta ctt ctt ggg agc act ggc tct att tct tgc 1008
Ser His Lys Gln Asp Leu Leu Leu Gly Ser Thr Gly Ser Ile Ser Cys
160 165 170 175

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ccc agt ctc agc tgc caa agt gat gca caa agt cca gcg gta acc tgg      1056
Pro Ser Leu Ser Cys Gln Ser Asp Ala Gln Ser Pro Ala Val Thr Trp
                180                 185                 190

tac aag aat gga aaa ctc ctc tct gtg gaa agg agc aac cga atc gta      1104
Tyr Lys Asn Gly Lys Leu Leu Ser Val Glu Arg Ser Asn Arg Ile Val
            195                 200                 205

gtg gat gaa gtt tat gac tat cac cag ggc aca tat gta tgt gat tac      1152
Val Asp Glu Val Tyr Asp Tyr His Gln Gly Thr Tyr Val Cys Asp Tyr
        210                 215                 220

act cag tcg gat act gtg agt tcg tgg aca gtc aga gct gtt gtt caa      1200
Thr Gln Ser Asp Thr Val Ser Ser Trp Thr Val Arg Ala Val Val Gln
    225                 230                 235

gtg aga acc att gtg gga gac act aaa ctc aaa cca gat att ctg gat      1248
Val Arg Thr Ile Val Gly Asp Thr Lys Leu Lys Pro Asp Ile Leu Asp
240                 245                 250                 255

cct gtc gag gac aca ctg gaa gta gaa ctt gga aag cct tta act att      1296
Pro Val Glu Asp Thr Leu Glu Val Glu Leu Gly Lys Pro Leu Thr Ile
                260                 265                 270

agc tgc aaa gca cga ttt ggc ttt gaa agg gtc ttt aac cct gtc ata      1344
Ser Cys Lys Ala Arg Phe Gly Phe Glu Arg Val Phe Asn Pro Val Ile
            275                 280                 285

aaa tgg tac atc aaa gat tct gac cta gag tgg gaa gtc tca gta cct      1392
Lys Trp Tyr Ile Lys Asp Ser Asp Leu Glu Trp Glu Val Ser Val Pro
        290                 295                 300

gag gcg aaa agt att aaa tcc act tta aag gat gaa atc att gag cgt      1440
Glu Ala Lys Ser Ile Lys Ser Thr Leu Lys Asp Glu Ile Ile Glu Arg
    305                 310                 315

aat atc atc ttg gaa aaa gtc act cag cgt gat ctt cgc agg aag ttt      1488
Asn Ile Ile Leu Glu Lys Val Thr Gln Arg Asp Leu Arg Arg Lys Phe
320                 325                 330                 335

gtt tgc ttt gtc cag aac tcc att gga aac aca acc cag tcc gtc caa      1536
Val Cys Phe Val Gln Asn Ser Ile Gly Asn Thr Thr Gln Ser Val Gln
                340                 345                 350

ctg aaa gaa aag aga gga gtg gtg ctc ctg tac atc ctg ctt ggc acc      1584
Leu Lys Glu Lys Arg Gly Val Val Leu Leu Tyr Ile Leu Leu Gly Thr
            355                 360                 365

atc ggg acc ctg gtg gcc gtg ctg gcg gcg agt gcc ctc ctc tac agg      1632
Ile Gly Thr Leu Val Ala Val Leu Ala Ala Ser Ala Leu Leu Tyr Arg
        370                 375                 380

cac tgg att gaa ata gtg ctg ctg tac cgg acc tac cag agc aag gat      1680
His Trp Ile Glu Ile Val Leu Leu Tyr Arg Thr Tyr Gln Ser Lys Asp
    385                 390                 395

cag acg ctt ggg gat aaa aag gat ttt gat gct ttc gta tcc tat gca      1728
Gln Thr Leu Gly Asp Lys Lys Asp Phe Asp Ala Phe Val Ser Tyr Ala
400                 405                 410                 415
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aaa tgg agc tct ttt cca agt gag gcc act tca tct ctg agt gaa gaa     1776
Lys Trp Ser Ser Phe Pro Ser Glu Ala Thr Ser Ser Leu Ser Glu Glu
                420                 425                 430

cac ttg gcc ctg agc cta ttt cct gat gtt tta gaa aac aaa tat gga     1824
His Leu Ala Leu Ser Leu Phe Pro Asp Val Leu Glu Asn Lys Tyr Gly
            435                 440                 445

tat agc ctg tgt ttg ctt gaa aga gat gtg gct cca gga gga gtg tat     1872
Tyr Ser Leu Cys Leu Leu Glu Arg Asp Val Ala Pro Gly Gly Val Tyr
        450                 455                 460

gca gaa gac att gtg agc att att aag aga agc aga aga gga ata ttt     1920
Ala Glu Asp Ile Val Ser Ile Ile Lys Arg Ser Arg Arg Gly Ile Phe
    465                 470                 475

atc ttg agc ccc aac tat gtc aat gga ccc agt atc ttt gaa cta caa     1968
Ile Leu Ser Pro Asn Tyr Val Asn Gly Pro Ser Ile Phe Glu Leu Gln
480                 485                 490                 495

gca gca gtg aat ctt gcc ttg gat gat caa aca ctg aaa ctc att tta     2016
Ala Ala Val Asn Leu Ala Leu Asp Asp Gln Thr Leu Lys Leu Ile Leu
                500                 505                 510

att aag ttc tgt tac ttc caa gag cca gag tct cta cct cat ctc gtg     2064
Ile Lys Phe Cys Tyr Phe Gln Glu Pro Glu Ser Leu Pro His Leu Val
            515                 520                 525

aaa aaa gct ctc agg gtt ttg ccc aca gtt act tgg aga ggc tta aaa     2112
Lys Lys Ala Leu Arg Val Leu Pro Thr Val Thr Trp Arg Gly Leu Lys
        530                 535                 540

tca gtt cct ccc aat tct agg ttc tgg gcc aaa atg cgc tac cac atg     2160
Ser Val Pro Pro Asn Ser Arg Phe Trp Ala Lys Met Arg Tyr His Met
    545                 550                 555

cct gtg aaa aac tct cag gga ttc acg tgg aac cag ctc aga att acc     2208
Pro Val Lys Asn Ser Gln Gly Phe Thr Trp Asn Gln Leu Arg Ile Thr
560                 565                 570                 575

tct agg att ttt cag tgg aaa gga ctc agt aga aca gaa acc act ggg     2256
Ser Arg Ile Phe Gln Trp Lys Gly Leu Ser Arg Thr Glu Thr Thr Gly
                580                 585                 590

agg agc tcc cag cct aag gaa tgg tga aatgagccct ggagcccccc           2303
Arg Ser Ser Gln Pro Lys Glu Trp
            595

ccagtccagt ccctgggata gagatgttgc tggacagaac tcacagctct gtgtgtgtgt   2363

gttcaggctg ataggaaatt caaagagtct cctgccagca ccaagcaagc ttgatggaca   2423

atggaatggg attgagactg tggtttagag cctttgattt cctggactgg acagacggcg   2483

agtgaattct ctagaccttg ggtactttca gtacacaaca cccctaagat ttcccagtgg   2543

tccgagcaga atcagaaaat acagctactt ctgccttatg gctagggaac tgtcatgtct   2603

accatgtatt gtacatatga ctttatgtat acttgcaatc aaataaatat tattttatta   2663

gaaaaaaaac cggaattc                                                 2681
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<212> PRT
<213> Homo sapiens

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20 25 30

Thr Tyr Ser Thr Arg Ser Glu Glu Glu Phe Val Leu Phe Cys Asp Leu
35 40 45

Pro Glu Pro Gln Lys Ser His Phe Cys His Arg Asn Arg Leu Ser Pro
50 55 60

Lys Gln Val Pro Glu His Leu Pro Phe Met Gly Ser Asn Asp Leu Ser
65 70 75 80

Asp Val Gln Trp Tyr Gln Gln Pro Ser Asn Gly Asp Pro Leu Glu Asp
85 90 95

Ile Arg Lys Ser Tyr Pro His Ile Ile Gln Asp Lys Cys Thr Leu His
100 105 110

Phe Leu Thr Pro Gly Val Asn Asn Ser Gly Ser Tyr Ile Cys Arg Pro
115 120 125

Lys Met Ile Lys Ser Pro Tyr Asp Val Ala Cys Cys Val Lys Met Ile
130 135 140

Leu Glu Val Lys Pro Gln Thr Asn Ala Ser Cys Glu Tyr Ser Ala Ser
145 150 155 160

His Lys Gln Asp Leu Leu Leu Gly Ser Thr Gly Ser Ile Ser Cys Pro
165 170 175

Ser Leu Ser Cys Gln Ser Asp Ala Gln Ser Pro Ala Val Thr Trp Tyr
180 185 190

Lys Asn Gly Lys Leu Leu Ser Val Glu Arg Ser Asn Arg Ile Val Val
195 200 205

Asp Glu Val Tyr Asp Tyr His Gln Gly Thr Tyr Val Cys Asp Tyr Thr
210 215 220

Gln Ser Asp Thr Val Ser Ser Trp Thr Val Arg Ala Val Val Gln Val
225 230 235 240

Arg Thr Ile Val Gly Asp Thr Lys Leu Lys Pro Asp Ile Leu Asp Pro
245 250 255

Val Glu Asp Thr Leu Glu Val Glu Leu Gly Lys Pro Leu Thr Ile Ser
260 265 270

Cys Lys Ala Arg Phe Gly Phe Glu Arg Val Phe Asn Pro Val Ile Lys

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        275                 280                 285

Trp Tyr Ile Lys Asp Ser Asp Leu Glu Trp Glu Val Ser Val Pro Glu
    290                 295                 300

Ala Lys Ser Ile Lys Ser Thr Leu Lys Asp Glu Ile Ile Glu Arg Asn
305                 310                 315                 320

Ile Ile Leu Glu Lys Val Thr Gln Arg Asp Leu Arg Arg Lys Phe Val
                325                 330                 335

Cys Phe Val Gln Asn Ser Ile Gly Asn Thr Thr Gln Ser Val Gln Leu
            340                 345                 350

Lys Glu Lys Arg Gly Val Val Leu Leu Tyr Ile Leu Leu Gly Thr Ile
        355                 360                 365

Gly Thr Leu Val Ala Val Leu Ala Ala Ser Ala Leu Leu Tyr Arg His
    370                 375                 380

Trp Ile Glu Ile Val Leu Leu Tyr Arg Thr Tyr Gln Ser Lys Asp Gln
385                 390                 395                 400

Thr Leu Gly Asp Lys Lys Asp Phe Asp Ala Phe Val Ser Tyr Ala Lys
                405                 410                 415

Trp Ser Ser Phe Pro Ser Glu Ala Thr Ser Ser Leu Ser Glu Glu His
            420                 425                 430

Leu Ala Leu Ser Leu Phe Pro Asp Val Leu Glu Asn Lys Tyr Gly Tyr
        435                 440                 445

Ser Leu Cys Leu Leu Glu Arg Asp Val Ala Pro Gly Gly Val Tyr Ala
    450                 455                 460

Glu Asp Ile Val Ser Ile Ile Lys Arg Ser Arg Arg Gly Ile Phe Ile
465                 470                 475                 480

Leu Ser Pro Asn Tyr Val Asn Gly Pro Ser Ile Phe Glu Leu Gln Ala
                485                 490                 495

Ala Val Asn Leu Ala Leu Asp Asp Gln Thr Leu Lys Leu Ile Leu Ile
            500                 505                 510

Lys Phe Cys Tyr Phe Gln Glu Pro Glu Ser Leu Pro His Leu Val Lys
        515                 520                 525

Lys Ala Leu Arg Val Leu Pro Thr Val Thr Trp Arg Gly Leu Lys Ser
    530                 535                 540

Val Pro Pro Asn Ser Arg Phe Trp Ala Lys Met Arg Tyr His Met Pro
545                 550                 555                 560

Val Lys Asn Ser Gln Gly Phe Thr Trp Asn Gln Leu Arg Ile Thr Ser
                565                 570                 575

Arg Ile Phe Gln Trp Lys Gly Leu Ser Arg Thr Glu Thr Thr Gly Arg
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Ser Ser Gln Pro Lys Glu Trp
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Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu Trp Val Leu
1 5 10 15

ctc ctg tgt gcc cac gtc gtc act ctc ctg gtc aga gcc aca cct gtc 158
Leu Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala Thr Pro Val
20 25 30

tcg cag acc acc aca gct gcc act gcc tca gtt aga agc aca aag gac 206
Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser Thr Lys Asp
35 40 45

ccc tgc ccc tcc cag ccc cca gtg ttc cca gca gct aag cag tgt cca 254
Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys Gln Cys Pro
50 55 60

gca ttg gaa gtg acc tgg cca gag gtg gaa gtg cca ctg aat gga acg 302
Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu Asn Gly Thr
65 70 75

ctg agc tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac ttc agc atc 350
Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn Phe Ser Ile
80 85 90 95

ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc cca ggc cga 398
Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg
100 105 110

ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca ggt acg cag 446
Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr Gly Thr Gln
115 120 125

ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc ctg cac agc 494
Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala Leu His Ser
130 135 140

acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt gtc cag cgt 542
Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg
145 150 155

cac gtc gtc ctg gcc cag ctc tgg gct ggg ctg agg gca acc ttg ccc 590
His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro
160 165 170 175

ccc acc caa gaagccctgc cctccagcca cagcagtcca cagcagcagg gttaa 644
Pro Thr Gln

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<212> PRT
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<400> 10

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Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala Thr Pro Val Ser
            20                  25                  30

Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser Thr Lys Asp Pro
        35                  40                  45

Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys Gln Cys Pro Ala
    50                  55                  60

Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu Asn Gly Thr Leu
65                  70                  75                  80

Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn Phe Ser Ile Leu
                85                  90                  95

Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg Leu
            100                 105                 110

Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr Gly Thr Gln Leu
        115                 120                 125

Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala Leu His Ser Thr
    130                 135                 140

Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His
145                 150                 155                 160

Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro
                165                 170                 175

Thr Gln
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<210> 11
<211> 422
<212> PRT
<213> Homo sapiens

<400> 11

```
Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu Trp Val Leu Leu
1               5                  10                  15

Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala Thr Pro Val Ser
            20                  25                  30

Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser Thr Lys Asp Pro
```

```
        35                  40                  45

Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys Gln Cys Pro Ala
    50                  55                  60

Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu Asn Gly Thr Leu
65                  70                  75                  80

Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn Phe Ser Ile Leu
                85                  90                  95

Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg Leu
            100                 105                 110

Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr Gly Thr Gln Leu
        115                 120                 125

Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala Leu His Ser Thr
    130                 135                 140

Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His
145                 150                 155                 160

Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro
                165                 170                 175

Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro Gln Gln Gln Gly
            180                 185                 190

Arg Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
        195                 200                 205

Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
    210                 215                 220

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
225                 230                 235                 240

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
                245                 250                 255

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
            260                 265                 270

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
        275                 280                 285

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
    290                 295                 300

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
305                 310                 315                 320

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
                325                 330                 335

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
            340                 345                 350

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
        355                 360                 365
```

```
Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
    370                 375                 380

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
385                 390                 395                 400

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
                405                 410                 415

Ser Leu Ser Pro Gly Lys
            420


<210>  12
<211>  579
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (1)..(579)

<220>
<221>  sig_peptide
<222>  (1)..(108)

<220>
<221>  mat_peptide
<222>  (109)..()

<400>  12
atg gct gct gaa cca gta gaa gac aat tgc atc aac ttt gtg gca atg       48
Met Ala Ala Glu Pro Val Glu Asp Asn Cys Ile Asn Phe Val Ala Met
    -35                 -30                 -25

aaa ttt att gac aat acg ctt tac ttt ata gct gaa gat gat gaa aac       96
Lys Phe Ile Asp Asn Thr Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn
-20                 -15                 -10                 -5

ctg gaa tca gat tac ttt ggc aag ctt gaa tct aaa tta tca gtc ata      144
Leu Glu Ser Asp Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile
            -1  1                   5                  10

aga aat ttg aat gac caa gtt ctc ttc att gac caa gga aat cgg cct      192
Arg Asn Leu Asn Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro
        15                  20                  25

cta ttt gaa gat atg act gat tct gac tgt aga gat aat gca ccc cgg      240
Leu Phe Glu Asp Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg
    30                  35                  40

acc ata ttt att ata agt atg tat aaa gat agc cag cct aga ggt atg      288
Thr Ile Phe Ile Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met
45                  50                  55                  60

gct gta act atc tct gtg aag tgt gag aaa att tca ayt ctc tcc tgt      336
Ala Val Thr Ile Ser Val Lys Cys Glu Lys Ile Ser Xaa Leu Ser Cys
                65                  70                  75
```

```
gag aac aaa att att tcc ttt aag gaa atg aat cct cct gat aac atc      384
Glu Asn Lys Ile Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile
            80                  85                  90

aag gat aca aaa agt gac atc ata ttc ttt cag aga agt gtc cca gga      432
Lys Asp Thr Lys Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly
        95                  100                 105

cat gat aat aag atg caa ttt gaa tct tca tca tac gaa gga tac ttt      480
His Asp Asn Lys Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe
    110                 115                 120

cta gct tgt gaa aaa gag aga gac ctt ttt aaa ctc att ttg aaa aaa      528
Leu Ala Cys Glu Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys
125                 130                 135                 140

gag gat gaa ttg ggg gat aga tct ata atg ttc act gtt caa aac gaa      576
Glu Asp Glu Leu Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu
                145                 150                 155

gac                                                                 579
Asp
```

<210> 13
<211> 193
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (73)..(73)
<223> The 'Xaa' at location 73 stands for Thr, or Ile.

<400> 13

```
Met Ala Ala Glu Pro Val Glu Asp Asn Cys Ile Asn Phe Val Ala Met
    -35                 -30                 -25

Lys Phe Ile Asp Asn Thr Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn
-20                 -15                 -10                 -5

Leu Glu Ser Asp Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile
            -1  1               5                   10

Arg Asn Leu Asn Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro
        15                  20                  25

Leu Phe Glu Asp Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg
    30                  35                  40

Thr Ile Phe Ile Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met
45                  50                  55                  60

Ala Val Thr Ile Ser Val Lys Cys Glu Lys Ile Ser Xaa Leu Ser Cys
                65                  70                  75

Glu Asn Lys Ile Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile
            80                  85                  90
```

```
Lys Asp Thr Lys Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly
        95                  100                 105

His Asp Asn Lys Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe
    110                 115                 120

Leu Ala Cys Glu Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys
125                 130                 135                 140

Glu Asp Glu Leu Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu
                145                 150                 155

Asp
```

<210> 14
<211> 157
<212> PRT
<213> Homo sapiens

<400> 14

```
Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
1               5                   10                  15

Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
            20                  25                  30

Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
        35                  40                  45

Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
    50                  55                  60

Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
65                  70                  75                  80

Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
                85                  90                  95

Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
            100                 105                 110

Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
        115                 120                 125

Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
    130                 135                 140

Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
145                 150                 155
```

<210> 15
<211> 765
<212> DNA
<213> Homo sapiens

<220>

<221> CDS
<222> (4)..(765)

<400> 15

```
gtc atg gaa tac gcc tct gac gct tca ctg gac ccc gaa gcc ccg tgg       48
    Met Glu Tyr Ala Ser Asp Ala Ser Leu Asp Pro Glu Ala Pro Trp
    1               5                   10                  15

cct ccc gcg ccc cgc gct cgc gcc tgc cgc gta ctg cct tgg gcc ctg       96
Pro Pro Ala Pro Arg Ala Arg Ala Cys Arg Val Leu Pro Trp Ala Leu
                20                  25                  30

gtc gcg ggg ctg ctg ctg ctg ctg ctg ctc gct gcc gcc tgc gcc gtc      144
Val Ala Gly Leu Leu Leu Leu Leu Leu Leu Ala Ala Ala Cys Ala Val
            35                  40                  45

ttc ctc gcc tgc ccc tgg gcc gtg tcc ggg gct cgc gcc tcg ccc ggc      192
Phe Leu Ala Cys Pro Trp Ala Val Ser Gly Ala Arg Ala Ser Pro Gly
        50                  55                  60

tcc gcg gcc agc ccg aga ctc cgc gag ggt ccc gag ctt tcg ccc gac      240
Ser Ala Ala Ser Pro Arg Leu Arg Glu Gly Pro Glu Leu Ser Pro Asp
    65                  70                  75

gat ccc gcc ggc ctc ttg gac ctg cgg cag ggc atg ttt gcg cag ctg      288
Asp Pro Ala Gly Leu Leu Asp Leu Arg Gln Gly Met Phe Ala Gln Leu
80                  85                  90                  95

gtg gcc caa aat gtt ctg ctg atc gat ggg ccc ctg agc tgg tac agt      336
Val Ala Gln Asn Val Leu Leu Ile Asp Gly Pro Leu Ser Trp Tyr Ser
                100                 105                 110

gac cca ggc ctg gca ggc gtg tcc ctg acg ggg ggc ctg agc tac aaa      384
Asp Pro Gly Leu Ala Gly Val Ser Leu Thr Gly Gly Leu Ser Tyr Lys
            115                 120                 125

gag gac acg aag gag ctg gtg gtg gcc aag gct gga gtc tac tat gtc      432
Glu Asp Thr Lys Glu Leu Val Val Ala Lys Ala Gly Val Tyr Tyr Val
        130                 135                 140

ttc ttt caa cta gag ctg cgg cgc gtg gtg gcc ggc gag ggc tca ggc      480
Phe Phe Gln Leu Glu Leu Arg Arg Val Val Ala Gly Glu Gly Ser Gly
    145                 150                 155

tcc gtt tca ctt gcg ctg cac ctg cag cca ctg cgc tct gct gct ggg      528
Ser Val Ser Leu Ala Leu His Leu Gln Pro Leu Arg Ser Ala Ala Gly
160                 165                 170                 175

gcc gcc gcc ctg gct ttg acc gtg gac ctg cca ccc gcc tcc tcc gag      576
Ala Ala Ala Leu Ala Leu Thr Val Asp Leu Pro Pro Ala Ser Ser Glu
                180                 185                 190

gct cgg aac tcg gcc ttc ggt ttc cag ggc cgc ttg ctg cac ctg agt      624
Ala Arg Asn Ser Ala Phe Gly Phe Gln Gly Arg Leu Leu His Leu Ser
            195                 200                 205

gcc ggc cag cgc ctg ggc gtc cat ctt cac act gag gcc agg gca cgc      672
Ala Gly Gln Arg Leu Gly Val His Leu His Thr Glu Ala Arg Ala Arg
        210                 215                 220

cat gcc tgg cag ctt acc cag ggc gcc aca gtc ttg gga ctc ttc cgg      720
```

```
His Ala Trp Gln Leu Thr Gln Gly Ala Thr Val Leu Gly Leu Phe Arg
    225                 230                 235

gtg acc ccc gaa atc cca gcc gga ctc cct tca ccg agg tcg gaa          765
Val Thr Pro Glu Ile Pro Ala Gly Leu Pro Ser Pro Arg Ser Glu
240                 245                 250
```

<210> 16
<211> 254
<212> PRT
<213> Homo sapiens

<400> 16

```
Met Glu Tyr Ala Ser Asp Ala Ser Leu Asp Pro Glu Ala Pro Trp Pro
1               5                   10                  15

Pro Ala Pro Arg Ala Arg Ala Cys Arg Val Leu Pro Trp Ala Leu Val
            20                  25                  30

Ala Gly Leu Leu Leu Leu Leu Leu Leu Ala Ala Ala Cys Ala Val Phe
        35                  40                  45

Leu Ala Cys Pro Trp Ala Val Ser Gly Ala Arg Ala Ser Pro Gly Ser
    50                  55                  60

Ala Ala Ser Pro Arg Leu Arg Glu Gly Pro Glu Leu Ser Pro Asp Asp
65                  70                  75                  80

Pro Ala Gly Leu Leu Asp Leu Arg Gln Gly Met Phe Ala Gln Leu Val
                85                  90                  95

Ala Gln Asn Val Leu Leu Ile Asp Gly Pro Leu Ser Trp Tyr Ser Asp
            100                 105                 110

Pro Gly Leu Ala Gly Val Ser Leu Thr Gly Gly Leu Ser Tyr Lys Glu
        115                 120                 125

Asp Thr Lys Glu Leu Val Val Ala Lys Ala Gly Val Tyr Tyr Val Phe
    130                 135                 140

Phe Gln Leu Glu Leu Arg Arg Val Val Ala Gly Glu Gly Ser Gly Ser
145                 150                 155                 160

Val Ser Leu Ala Leu His Leu Gln Pro Leu Arg Ser Ala Ala Gly Ala
                165                 170                 175

Ala Ala Leu Ala Leu Thr Val Asp Leu Pro Pro Ala Ser Ser Glu Ala
            180                 185                 190

Arg Asn Ser Ala Phe Gly Phe Gln Gly Arg Leu Leu His Leu Ser Ala
        195                 200                 205

Gly Gln Arg Leu Gly Val His Leu His Thr Glu Ala Arg Ala Arg His
    210                 215                 220

Ala Trp Gln Leu Thr Gln Gly Ala Thr Val Leu Gly Leu Phe Arg Val
225                 230                 235                 240

Thr Pro Glu Ile Pro Ala Gly Leu Pro Ser Pro Arg Ser Glu
```

245 250

<210> 17
<211> 1415
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (120)..(884)

<220>
<221> sig_peptide
<222> (120)..(189)

<220>
<221> mat_peptide
<222> (189)..()

<400> 17
agtggaaagt tctccggcag ccctgagatc tcaagagtga catttgtgag accagctaat 60

ttgattaaaa ttctcttgga atcagctttg ctagtatcat acctgtgcca gatttcatc 119

atg gga aac agc tgt tac aac ata gta gcc act ctg ttg ctg gtc ctc 167
Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu
-20 -15 -10

aac ttt gag agg aca aga tca ttg cag gat cct tgt agt aac tgc cca 215
Asn Phe Glu Arg Thr Arg Ser Leu Gln Asp Pro Cys Ser Asn Cys Pro
-5 -1 1 5

gct ggt aca ttc tgt gat aat aac agg aat cag att tgc agt ccc tgt 263
Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys
10 15 20 25

cct cca aat agt ttc tcc agc gca ggt gga caa agg acc tgt gac ata 311
Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile
30 35 40

tgc agg cag tgt aaa ggt gtt ttc agg acc agg aag gag tgt tcc tcc 359
Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser
45 50 55

acc agc aat gca gag tgt gac tgc act cca ggg ttt cac tgc ctg ggg 407
Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly
60 65 70

gca gga tgc agc atg tgt gaa cag gat tgt aaa caa ggt caa gaa ctg 455
Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu
75 80 85

aca aaa aaa ggt tgt aaa gac tgt tgc ttt ggg aca ttt aac gat cag 503
Thr Lys Lys Gly Cys Lys Asp Cys Cys Phe Gly Thr Phe Asn Asp Gln
90 95 100 105

aaa cgt ggc atc tgt cga ccc tgg aca aac tgt tct ttg gat gga aag 551
Lys Arg Gly Ile Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Lys
110 115 120

```
tct gtg ctt gtg aat ggg acg aag gag agg gac gtg gtc tgt gga cca      599
Ser Val Leu Val Asn Gly Thr Lys Glu Arg Asp Val Val Cys Gly Pro
            125                 130                 135

tct cca gcc gac ctc tct ccg gga gca tcc tct gtg acc ccg cct gcc      647
Ser Pro Ala Asp Leu Ser Pro Gly Ala Ser Ser Val Thr Pro Pro Ala
        140                 145                 150

cct gcg aga gag cca gga cac tct ccg cag atc atc tcc ttc ttt ctt      695
Pro Ala Arg Glu Pro Gly His Ser Pro Gln Ile Ile Ser Phe Phe Leu
    155                 160                 165

gcg ctg acg tcg act gcg ttg ctc ttc ctg ctg ttc ttc ctc acg ctc      743
Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu Leu Phe Phe Leu Thr Leu
170                 175                 180                 185

cgt ttc tct gtt gtt aaa cgg ggc aga aag aaa ctc ctg tat ata ttc      791
Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe
                190                 195                 200

aaa caa cca ttt atg aga cca gta caa act act caa gag gaa gat ggc      839
Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly
            205                 210                 215

tgt agc tgc cga ttt cca gaa gaa gaa gaa gga gga tgt gaa ctg          884
Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
        220                 225                 230

tgaaatggaa gtcaataggg ctgttgggac tttcttgaaa agaagcaagg aaatatgagt    944

catccgctat cacagctttc aaaagcaaga acaccatcct acataatacc caggattccc   1004

ccaacacacg ttctttttcta aatgccaatg agttggcctt taaaaatgca ccacttttttt  1064

ttttttttttt gacagggtct cactctgtca cccaggctgg agtgcagtgg caccaccatg   1124

gctctctgca gccttgacct ctgggagctc aagtgatcct cctgcctcag tctcctagta   1184

gctggaacta caaggaaggg ccaccacacc tgactaactt ttttgttttt tgtttggtaa   1244

agatggcatt tcgccatgtt gtacaggctg gtctcaaact cctaggttca ctttggcctc   1304

ccaaagtgct gggattacag acatgaactg ccaggcccgg ccaaaataat gcaccacttt   1364

taacagaaca gacagatgag gacagagctg gtgataaaaa aaaaaaaaaa a             1415
```

<210> 18
<211> 255
<212> PRT
<213> Homo sapiens

<400> 18

```
Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu
            -20                 -15                 -10

Asn Phe Glu Arg Thr Arg Ser Leu Gln Asp Pro Cys Ser Asn Cys Pro
        -5                  -1  1                   5
```

```
Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys
10                  15                  20                  25

Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile
                30                  35                  40

Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser
            45                  50                  55

Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly
        60                  65                  70

Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu
    75                  80                  85

Thr Lys Lys Gly Cys Lys Asp Cys Cys Phe Gly Thr Phe Asn Asp Gln
90                  95                  100                 105

Lys Arg Gly Ile Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Lys
                110                 115                 120

Ser Val Leu Val Asn Gly Thr Lys Glu Arg Asp Val Val Cys Gly Pro
            125                 130                 135

Ser Pro Ala Asp Leu Ser Pro Gly Ala Ser Ser Val Thr Pro Pro Ala
        140                 145                 150

Pro Ala Arg Glu Pro Gly His Ser Pro Gln Ile Ile Ser Phe Phe Leu
    155                 160                 165

Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu Leu Phe Phe Leu Thr Leu
170                 175                 180                 185

Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe
                190                 195                 200

Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly
            205                 210                 215

Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
        220                 225                 230
```

<210> 19
<211> 648
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(645)

<400> 19

```
atg cat gtg ccg gcg ggc tcc gtg gcc agc cac ctg ggg acc acg agc       48
Met His Val Pro Ala Gly Ser Val Ala Ser His Leu Gly Thr Thr Ser
1               5                   10                  15

cgc agc tat ttc tat ttg acc aca gcc act ctg gct ctg tgc ctt gtc       96
Arg Ser Tyr Phe Tyr Leu Thr Thr Ala Thr Leu Ala Leu Cys Leu Val
            20                  25                  30
```

```
ttc acg gtg gcc act att atg gtg ttg gtc gtt cag agg acg gac tcc      144
Phe Thr Val Ala Thr Ile Met Val Leu Val Val Gln Arg Thr Asp Ser
        35                  40                  45

att ccc aac tca cct gac aac gtc ccc ctc aaa gga gga aat tgc tca      192
Ile Pro Asn Ser Pro Asp Asn Val Pro Leu Lys Gly Gly Asn Cys Ser
    50                  55                  60

gaa gac ctc tta tgt atc ctg aaa aga gct cca ttc aag aag tca tgg      240
Glu Asp Leu Leu Cys Ile Leu Lys Arg Ala Pro Phe Lys Lys Ser Trp
65                  70                  75                  80

gcc tac ctc caa gtg gca aag cat cta aac aaa acc aag ttg tct tgg      288
Ala Tyr Leu Gln Val Ala Lys His Leu Asn Lys Thr Lys Leu Ser Trp
                85                  90                  95

aac aaa gat ggc att ctc cat gga gtc aga tat cag gat ggg aat ctg      336
Asn Lys Asp Gly Ile Leu His Gly Val Arg Tyr Gln Asp Gly Asn Leu
            100                 105                 110

gtg atc caa ttc cct ggt ttg tac ttc atc att tgc caa ctg cag ttt      384
Val Ile Gln Phe Pro Gly Leu Tyr Phe Ile Ile Cys Gln Leu Gln Phe
        115                 120                 125

ctt gta caa tgc cca aat aat tct gtc gat ctg aag ttg gag ctt ctc      432
Leu Val Gln Cys Pro Asn Asn Ser Val Asp Leu Lys Leu Glu Leu Leu
    130                 135                 140

atc aac aag cat atc aaa aaa cag gcc ctg gtg aca gtg tgt gag tct      480
Ile Asn Lys His Ile Lys Lys Gln Ala Leu Val Thr Val Cys Glu Ser
145                 150                 155                 160

gga atg caa acg aaa cac gta tac cag aat ctc tct caa ttc ttg ctg      528
Gly Met Gln Thr Lys His Val Tyr Gln Asn Leu Ser Gln Phe Leu Leu
                165                 170                 175

gat tac ctg cag gtc aac acc acc ata tca gtc aat gtg gat aca ttc      576
Asp Tyr Leu Gln Val Asn Thr Thr Ile Ser Val Asn Val Asp Thr Phe
            180                 185                 190

cag tac ata gat aca agc acc ttt cct ctt gag aat gtg ttg tcc atc      624
Gln Tyr Ile Asp Thr Ser Thr Phe Pro Leu Glu Asn Val Leu Ser Ile
        195                 200                 205

ttc tta tac agt aat tca gac tga                                     648
Phe Leu Tyr Ser Asn Ser Asp
    210                 215
```

<210> 20
<211> 215
<212> PRT
<213> Homo sapiens

<400> 20

```
Met His Val Pro Ala Gly Ser Val Ala Ser His Leu Gly Thr Thr Ser
1               5                   10                  15

Arg Ser Tyr Phe Tyr Leu Thr Thr Ala Thr Leu Ala Leu Cys Leu Val
```

```
            20                  25                  30

Phe Thr Val Ala Thr Ile Met Val Leu Val Val Gln Arg Thr Asp Ser
        35                  40                  45

Ile Pro Asn Ser Pro Asp Asn Val Pro Leu Lys Gly Gly Asn Cys Ser
    50                  55                  60

Glu Asp Leu Leu Cys Ile Leu Lys Arg Ala Pro Phe Lys Lys Ser Trp
65                  70                  75                  80

Ala Tyr Leu Gln Val Ala Lys His Leu Asn Lys Thr Lys Leu Ser Trp
                85                  90                  95

Asn Lys Asp Gly Ile Leu His Gly Val Arg Tyr Gln Asp Gly Asn Leu
            100                 105                 110

Val Ile Gln Phe Pro Gly Leu Tyr Phe Ile Ile Cys Gln Leu Gln Phe
        115                 120                 125

Leu Val Gln Cys Pro Asn Asn Ser Val Asp Leu Lys Leu Glu Leu Leu
    130                 135                 140

Ile Asn Lys His Ile Lys Lys Gln Ala Leu Val Thr Val Cys Glu Ser
145                 150                 155                 160

Gly Met Gln Thr Lys His Val Tyr Gln Asn Leu Ser Gln Phe Leu Leu
                165                 170                 175

Asp Tyr Leu Gln Val Asn Thr Thr Ile Ser Val Asn Val Asp Thr Phe
            180                 185                 190

Gln Tyr Ile Asp Thr Ser Thr Phe Pro Leu Glu Asn Val Leu Ser Ile
        195                 200                 205

Phe Leu Tyr Ser Asn Ser Asp
    210                 215


<210>  21
<211>  705
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (1)..(702)

<400>  21
atg gac cca ggg ctg cag caa gca ctc aac gga atg gcc cct cct gga      48
Met Asp Pro Gly Leu Gln Gln Ala Leu Asn Gly Met Ala Pro Pro Gly
1               5                   10                  15

gac aca gcc atg cat gtg ccg gcg ggc tcc gtg gcc agc cac ctg ggg      96
Asp Thr Ala Met His Val Pro Ala Gly Ser Val Ala Ser His Leu Gly
            20                  25                  30

acc acg agc cgc agc tat ttc tat ttg acc aca gcc act ctg gct ctg     144
Thr Thr Ser Arg Ser Tyr Phe Tyr Leu Thr Thr Ala Thr Leu Ala Leu
        35                  40                  45
```

```
tgc ctt gtc ttc acg gtg gcc act att atg gtg ttg gtc gtt cag agg      192
Cys Leu Val Phe Thr Val Ala Thr Ile Met Val Leu Val Val Gln Arg
    50                  55                  60

acg gac tcc att ccc aac tca cct gac aac gtc ccc ctc aaa gga gga      240
Thr Asp Ser Ile Pro Asn Ser Pro Asp Asn Val Pro Leu Lys Gly Gly
65                  70                  75                  80

aat tgc tca gaa gac ctc tta tgt atc ctg aaa aga gct cca ttc aag      288
Asn Cys Ser Glu Asp Leu Leu Cys Ile Leu Lys Arg Ala Pro Phe Lys
                85                  90                  95

aag tca tgg gcc tac ctc caa gtg gca aag cat cta aac aaa acc aag      336
Lys Ser Trp Ala Tyr Leu Gln Val Ala Lys His Leu Asn Lys Thr Lys
            100                 105                 110

ttg tct tgg aac aaa gat ggc att ctc cat gga gtc aga tat cag gat      384
Leu Ser Trp Asn Lys Asp Gly Ile Leu His Gly Val Arg Tyr Gln Asp
        115                 120                 125

ggg aat ctg gtg atc caa ttc cct ggt ttg tac ttc atc att tgc caa      432
Gly Asn Leu Val Ile Gln Phe Pro Gly Leu Tyr Phe Ile Ile Cys Gln
    130                 135                 140

ctg cag ttt ctt gta caa tgc cca aat aat tct gtc gat ctg aag ttg      480
Leu Gln Phe Leu Val Gln Cys Pro Asn Asn Ser Val Asp Leu Lys Leu
145                 150                 155                 160

gag ctt ctc atc aac aag cat atc aaa aaa cag gcc ctg gtg aca gtg      528
Glu Leu Leu Ile Asn Lys His Ile Lys Lys Gln Ala Leu Val Thr Val
                165                 170                 175

tgt gag tct gga atg caa acg aaa cac gta tac cag aat ctc tct caa      576
Cys Glu Ser Gly Met Gln Thr Lys His Val Tyr Gln Asn Leu Ser Gln
            180                 185                 190

ttc ttg ctg gat tac ctg cag gtc aac acc acc ata tca gtc aat gtg      624
Phe Leu Leu Asp Tyr Leu Gln Val Asn Thr Thr Ile Ser Val Asn Val
        195                 200                 205

gat aca ttc cag tac ata gat aca agc acc ttt cct ctt gag aat gtg      672
Asp Thr Phe Gln Tyr Ile Asp Thr Ser Thr Phe Pro Leu Glu Asn Val
    210                 215                 220

ttg tcc atc ttc tta tac agt aat tca gac tga                         705
Leu Ser Ile Phe Leu Tyr Ser Asn Ser Asp
225                 230
```

<210> 22
<211> 234
<212> PRT
<213> Homo sapiens

<400> 22

```
Met Asp Pro Gly Leu Gln Gln Ala Leu Asn Gly Met Ala Pro Pro Gly
1               5                   10                  15

Asp Thr Ala Met His Val Pro Ala Gly Ser Val Ala Ser His Leu Gly
```

```
            20                  25                  30

Thr Thr Ser Arg Ser Tyr Phe Tyr Leu Thr Thr Ala Thr Leu Ala Leu
        35                  40                  45

Cys Leu Val Phe Thr Val Ala Thr Ile Met Val Leu Val Val Gln Arg
    50                  55                  60

Thr Asp Ser Ile Pro Asn Ser Pro Asp Asn Val Pro Leu Lys Gly Gly
65                  70                  75                  80

Asn Cys Ser Glu Asp Leu Leu Cys Ile Leu Lys Arg Ala Pro Phe Lys
                85                  90                  95

Lys Ser Trp Ala Tyr Leu Gln Val Ala Lys His Leu Asn Lys Thr Lys
            100                 105                 110

Leu Ser Trp Asn Lys Asp Gly Ile Leu His Gly Val Arg Tyr Gln Asp
        115                 120                 125

Gly Asn Leu Val Ile Gln Phe Pro Gly Leu Tyr Phe Ile Ile Cys Gln
    130                 135                 140

Leu Gln Phe Leu Val Gln Cys Pro Asn Asn Ser Val Asp Leu Lys Leu
145                 150                 155                 160

Glu Leu Leu Ile Asn Lys His Ile Lys Lys Gln Ala Leu Val Thr Val
                165                 170                 175

Cys Glu Ser Gly Met Gln Thr Lys His Val Tyr Gln Asn Leu Ser Gln
            180                 185                 190

Phe Leu Leu Asp Tyr Leu Gln Val Asn Thr Thr Ile Ser Val Asn Val
        195                 200                 205

Asp Thr Phe Gln Tyr Ile Asp Thr Ser Thr Phe Pro Leu Glu Asn Val
    210                 215                 220

Leu Ser Ile Phe Leu Tyr Ser Asn Ser Asp
225                 230


<210>  23
<211>  1788
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (1)..(1785)

<400>  23
atg cgc gtc ctc ctc gcc gcg ctg gga ctg ctg ttc ctg ggg gcg cta       48
Met Arg Val Leu Leu Ala Ala Leu Gly Leu Leu Phe Leu Gly Ala Leu
1               5                   10                  15

cga gcc ttc cca cag gat cga ccc ttc gag gac acc tgt cat gga aac       96
Arg Ala Phe Pro Gln Asp Arg Pro Phe Glu Asp Thr Cys His Gly Asn
            20                  25                  30
```

```
ccc agc cac tac tat gac aag gct gtc agg agg tgc tgt tac cgc tgc      144
Pro Ser His Tyr Tyr Asp Lys Ala Val Arg Arg Cys Cys Tyr Arg Cys
        35                  40                  45

ccc atg ggg ctg ttc ccg aca cag cag tgc cca cag agg cct act gac      192
Pro Met Gly Leu Phe Pro Thr Gln Gln Cys Pro Gln Arg Pro Thr Asp
    50                  55                  60

tgc agg aag cag tgt gag cct gac tac tac ctg gat gag gcc gac cgc      240
Cys Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Asp Arg
65                  70                  75                  80

tgt aca gcc tgc gtg act tgt tct cga gat gac ctc gtg gag aag acg      288
Cys Thr Ala Cys Val Thr Cys Ser Arg Asp Asp Leu Val Glu Lys Thr
                85                  90                  95

ccg tgt gca tgg aac tcc tcc cgt gtc tgc gaa tgt cga ccc ggc atg      336
Pro Cys Ala Trp Asn Ser Ser Arg Val Cys Glu Cys Arg Pro Gly Met
            100                 105                 110

ttc tgt tcc acg tct gcc gtc aac tcc tgt gcc cgc tgc ttc ttc cat      384
Phe Cys Ser Thr Ser Ala Val Asn Ser Cys Ala Arg Cys Phe Phe His
        115                 120                 125

tct gtc tgt ccg gca ggg atg att gtc aag ttc cca ggc acg gcg cag      432
Ser Val Cys Pro Ala Gly Met Ile Val Lys Phe Pro Gly Thr Ala Gln
    130                 135                 140

aag aac acg gtc tgt gag ccg gct tcc cca ggg gtc agc cct gcc tgt      480
Lys Asn Thr Val Cys Glu Pro Ala Ser Pro Gly Val Ser Pro Ala Cys
145                 150                 155                 160

gcc agc cca gag aac tgc aag gaa ccc tcc agt ggc acc atc ccc cag      528
Ala Ser Pro Glu Asn Cys Lys Glu Pro Ser Ser Gly Thr Ile Pro Gln
                165                 170                 175

gcc aag ccc acc ccg gtg tcc cca gca acc tcc agt gcc agc acc atg      576
Ala Lys Pro Thr Pro Val Ser Pro Ala Thr Ser Ser Ala Ser Thr Met
            180                 185                 190

cct gta aga ggg ggc acc cgc ctc gcc cag gaa gct gct tct aaa ctg      624
Pro Val Arg Gly Gly Thr Arg Leu Ala Gln Glu Ala Ala Ser Lys Leu
        195                 200                 205

acg agg gct ccc gac tct ccc tcc tct gtg gga agg cct agt tca gat      672
Thr Arg Ala Pro Asp Ser Pro Ser Ser Val Gly Arg Pro Ser Ser Asp
    210                 215                 220

cca ggt ctg tcc cca aca cag cca tgc cca gag ggg tct ggt gat tgc      720
Pro Gly Leu Ser Pro Thr Gln Pro Cys Pro Glu Gly Ser Gly Asp Cys
225                 230                 235                 240

aga aag cag tgt gag ccc gac tac tac ctg gac gag gcc ggc cgc tgc      768
Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Gly Arg Cys
                245                 250                 255

aca gcc tgc gtg agc tgt tct cga gat gac ctt gtg gag aag acg cca      816
Thr Ala Cys Val Ser Cys Ser Arg Asp Asp Leu Val Glu Lys Thr Pro
            260                 265                 270

tgt gca tgg aac tcc tcc cgc acc tgc gaa tgt cga cct ggc atg atc      864
```

```
Cys Ala Trp Asn Ser Ser Arg Thr Cys Glu Cys Arg Pro Gly Met Ile
        275                 280                 285

tgt gcc aca tca gcc acc aac tcc tgt gcc cgc tgt gtc ccc tac cca      912
Cys Ala Thr Ser Ala Thr Asn Ser Cys Ala Arg Cys Val Pro Tyr Pro
    290                 295                 300

atc tgt gca gga gag acg gtc acc aag ccc cag gat atg gct gag aag      960
Ile Cys Ala Gly Glu Thr Val Thr Lys Pro Gln Asp Met Ala Glu Lys
305                 310                 315                 320

gac acc acc ttt gag gcg cca ccc ctg ggg acc cag ccg gac tgc aac     1008
Asp Thr Thr Phe Glu Ala Pro Pro Leu Gly Thr Gln Pro Asp Cys Asn
                325                 330                 335

ccc acc cca gag aat ggc gag gcg cct gcc agc acc agc ccc act cag     1056
Pro Thr Pro Glu Asn Gly Glu Ala Pro Ala Ser Thr Ser Pro Thr Gln
            340                 345                 350

agc ttg ctg gtg gac tcc cag gcc agt aag acg ctg ccc atc cca acc     1104
Ser Leu Leu Val Asp Ser Gln Ala Ser Lys Thr Leu Pro Ile Pro Thr
        355                 360                 365

agc gct ccc gtc gct ctc tcc tcc acg ggg aag ccc gtt ctg gat gca     1152
Ser Ala Pro Val Ala Leu Ser Ser Thr Gly Lys Pro Val Leu Asp Ala
    370                 375                 380

ggg cca gtg ctc ttc tgg gtg atc ctg gtg ttg gtt gtg gtg gtc ggc     1200
Gly Pro Val Leu Phe Trp Val Ile Leu Val Leu Val Val Val Val Gly
385                 390                 395                 400

tcc agc gcc ttc ctc ctg tgc cac cgg agg gcc tgc agg aag cga att     1248
Ser Ser Ala Phe Leu Leu Cys His Arg Arg Ala Cys Arg Lys Arg Ile
                405                 410                 415

cgg cag aag ctc cac ctg tgc tac ccg gtc cag acc tcc cag ccc aag     1296
Arg Gln Lys Leu His Leu Cys Tyr Pro Val Gln Thr Ser Gln Pro Lys
            420                 425                 430

cta gag ctt gtg gat tcc aga ccc agg agg agc tca acg cag ctg agg     1344
Leu Glu Leu Val Asp Ser Arg Pro Arg Arg Ser Ser Thr Gln Leu Arg
        435                 440                 445

agt ggt gcg tcg gtg aca gaa ccc gtc gcg gaa gag cga ggg tta atg     1392
Ser Gly Ala Ser Val Thr Glu Pro Val Ala Glu Glu Arg Gly Leu Met
    450                 455                 460

agc cag cca ctg atg gag acc tgc cac agc gtg ggg gca gcc tac ctg     1440
Ser Gln Pro Leu Met Glu Thr Cys His Ser Val Gly Ala Ala Tyr Leu
465                 470                 475                 480

gag agc ctg ccg ctg cag gat gcc agc ccg gcc ggg ggc ccc tcg tcc     1488
Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro Ala Gly Gly Pro Ser Ser
                485                 490                 495

ccc agg gac ctt cct gag ccc cgg gtg tcc acg gag cac acc aat aac     1536
Pro Arg Asp Leu Pro Glu Pro Arg Val Ser Thr Glu His Thr Asn Asn
            500                 505                 510

aag att gag aaa atc tac atc atg aag gct gac acc gtg atc gtg ggg     1584
Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala Asp Thr Val Ile Val Gly
```

```
        515                 520                 525

acc gtg aag gct gag ctg ccg gag ggc cgg ggc ctg gcg ggg cca gca     1632
Thr Val Lys Ala Glu Leu Pro Glu Gly Arg Gly Leu Ala Gly Pro Ala
    530                 535                 540

gag ccc gag ttg gag gag gag ctg gag gcg gac cat acc ccc cac tac     1680
Glu Pro Glu Leu Glu Glu Glu Leu Glu Ala Asp His Thr Pro His Tyr
545                 550                 555                 560

ccc gag cag gag aca gaa ccg cct ctg ggc agc tgc agc gat gtc atg     1728
Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly Ser Cys Ser Asp Val Met
                565                 570                 575

ctc tca gtg gaa gag gaa ggg aaa gaa gac ccc ttg ccc aca gct gcc     1776
Leu Ser Val Glu Glu Glu Gly Lys Glu Asp Pro Leu Pro Thr Ala Ala
            580                 585                 590

tct gga aag tga                                                    1788
Ser Gly Lys
        595
```

<210> 24
<211> 595
<212> PRT
<213> Homo sapiens

<400> 24

```
Met Arg Val Leu Leu Ala Ala Leu Gly Leu Leu Phe Leu Gly Ala Leu
1               5                   10                  15

Arg Ala Phe Pro Gln Asp Arg Pro Phe Glu Asp Thr Cys His Gly Asn
            20                  25                  30

Pro Ser His Tyr Tyr Asp Lys Ala Val Arg Arg Cys Cys Tyr Arg Cys
        35                  40                  45

Pro Met Gly Leu Phe Pro Thr Gln Gln Cys Pro Gln Arg Pro Thr Asp
    50                  55                  60

Cys Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Asp Arg
65                  70                  75                  80

Cys Thr Ala Cys Val Thr Cys Ser Arg Asp Asp Leu Val Glu Lys Thr
                85                  90                  95

Pro Cys Ala Trp Asn Ser Ser Arg Val Cys Glu Cys Arg Pro Gly Met
            100                 105                 110

Phe Cys Ser Thr Ser Ala Val Asn Ser Cys Ala Arg Cys Phe Phe His
        115                 120                 125

Ser Val Cys Pro Ala Gly Met Ile Val Lys Phe Pro Gly Thr Ala Gln
    130                 135                 140

Lys Asn Thr Val Cys Glu Pro Ala Ser Pro Gly Val Ser Pro Ala Cys
145                 150                 155                 160

Ala Ser Pro Glu Asn Cys Lys Glu Pro Ser Ser Gly Thr Ile Pro Gln
```

```
                165                 170                 175

Ala Lys Pro Thr Pro Val Ser Pro Ala Thr Ser Ser Ala Ser Thr Met
            180                 185                 190

Pro Val Arg Gly Gly Thr Arg Leu Ala Gln Glu Ala Ala Ser Lys Leu
        195                 200                 205

Thr Arg Ala Pro Asp Ser Pro Ser Ser Val Gly Arg Pro Ser Ser Asp
    210                 215                 220

Pro Gly Leu Ser Pro Thr Gln Pro Cys Pro Glu Gly Ser Gly Asp Cys
225                 230                 235                 240

Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Gly Arg Cys
                245                 250                 255

Thr Ala Cys Val Ser Cys Ser Arg Asp Asp Leu Val Glu Lys Thr Pro
            260                 265                 270

Cys Ala Trp Asn Ser Ser Arg Thr Cys Glu Cys Arg Pro Gly Met Ile
        275                 280                 285

Cys Ala Thr Ser Ala Thr Asn Ser Cys Ala Arg Cys Val Pro Tyr Pro
    290                 295                 300

Ile Cys Ala Gly Glu Thr Val Thr Lys Pro Gln Asp Met Ala Glu Lys
305                 310                 315                 320

Asp Thr Thr Phe Glu Ala Pro Pro Leu Gly Thr Gln Pro Asp Cys Asn
                325                 330                 335

Pro Thr Pro Glu Asn Gly Glu Ala Pro Ala Ser Thr Ser Pro Thr Gln
            340                 345                 350

Ser Leu Leu Val Asp Ser Gln Ala Ser Lys Thr Leu Pro Ile Pro Thr
        355                 360                 365

Ser Ala Pro Val Ala Leu Ser Ser Thr Gly Lys Pro Val Leu Asp Ala
    370                 375                 380

Gly Pro Val Leu Phe Trp Val Ile Leu Val Leu Val Val Val Val Gly
385                 390                 395                 400

Ser Ser Ala Phe Leu Leu Cys His Arg Arg Ala Cys Arg Lys Arg Ile
                405                 410                 415

Arg Gln Lys Leu His Leu Cys Tyr Pro Val Gln Thr Ser Gln Pro Lys
            420                 425                 430

Leu Glu Leu Val Asp Ser Arg Pro Arg Arg Ser Ser Thr Gln Leu Arg
        435                 440                 445

Ser Gly Ala Ser Val Thr Glu Pro Val Ala Glu Glu Arg Gly Leu Met
    450                 455                 460

Ser Gln Pro Leu Met Glu Thr Cys His Ser Val Gly Ala Ala Tyr Leu
465                 470                 475                 480

Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro Ala Gly Gly Pro Ser Ser
                485                 490                 495
```

```
Pro Arg Asp Leu Pro Glu Pro Arg Val Ser Thr Glu His Thr Asn Asn
            500                 505                 510

Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala Asp Thr Val Ile Val Gly
        515                 520                 525

Thr Val Lys Ala Glu Leu Pro Glu Gly Arg Gly Leu Ala Gly Pro Ala
    530                 535                 540

Glu Pro Glu Leu Glu Glu Glu Leu Glu Ala Asp His Thr Pro His Tyr
545                 550                 555                 560

Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly Ser Cys Ser Asp Val Met
                565                 570                 575

Leu Ser Val Glu Glu Glu Gly Lys Glu Asp Pro Leu Pro Thr Ala Ala
            580                 585                 590

Ser Gly Lys
        595


<210>  25
<211>  696
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (138)..(686)

<400>  25
ggccctggga cctttgccta ttttctgatt gataggcttt gttttgtctt tacctccttc     60

tttctgggga aaacttcagt tttatcgcac gttccccttt tccatatctt catcttccct    120

ctacccagat tgtgaag atg gaa agg gtc caa ccc ctg gaa gag aat gtg        170
                  Met Glu Arg Val Gln Pro Leu Glu Glu Asn Val
                  1               5                   10

gga aat gca gcc agg cca aga ttc gag agg aac aag cta ttg ctg gtg      218
Gly Asn Ala Ala Arg Pro Arg Phe Glu Arg Asn Lys Leu Leu Leu Val
            15                  20                  25

gcc tct gta att cag gga ctg ggg ctg ctc ctg tgc ttc acc tac atc      266
Ala Ser Val Ile Gln Gly Leu Gly Leu Leu Leu Cys Phe Thr Tyr Ile
        30                  35                  40

tgc ctg cac ttc tct gct ctt cag gta tca cat cgg tat cct cga att      314
Cys Leu His Phe Ser Ala Leu Gln Val Ser His Arg Tyr Pro Arg Ile
    45                  50                  55

caa agt atc aaa gta caa ttt acc gaa tat aag aag gag aaa ggt ttc      362
Gln Ser Ile Lys Val Gln Phe Thr Glu Tyr Lys Lys Glu Lys Gly Phe
60                  65                  70                  75

atc ctc act tcc caa aag gag gat gaa atc atg aag gtg cag aac aac      410
Ile Leu Thr Ser Gln Lys Glu Asp Glu Ile Met Lys Val Gln Asn Asn
                80                  85                  90
```

```
tca gtc atc atc aac tgt gat ggg ttt tat ctc atc tcc ctg aag ggc      458
Ser Val Ile Ile Asn Cys Asp Gly Phe Tyr Leu Ile Ser Leu Lys Gly
            95                  100                 105

tac ttc tcc cag gaa gtc aac att agc ctt cat tac cag aag gat gag      506
Tyr Phe Ser Gln Glu Val Asn Ile Ser Leu His Tyr Gln Lys Asp Glu
        110                 115                 120

gag ccc ctc ttc caa ctg aag aag gtc agg tct gtc aac tcc ttg atg      554
Glu Pro Leu Phe Gln Leu Lys Lys Val Arg Ser Val Asn Ser Leu Met
    125                 130                 135

gtg gcc tct ctg act tac aaa gac aaa gtc tac ttg aat gtg acc act      602
Val Ala Ser Leu Thr Tyr Lys Asp Lys Val Tyr Leu Asn Val Thr Thr
140                 145                 150                 155

gac aat acc tcc ctg gat gac ttc cat gtg aat ggc gga gaa ctg att      650
Asp Asn Thr Ser Leu Asp Asp Phe His Val Asn Gly Gly Glu Leu Ile
                160                 165                 170

ctt atc cat caa aat cct ggt gaa ttc tgt gtc ctt tgaggggctg          696
Leu Ile His Gln Asn Pro Gly Glu Phe Cys Val Leu
            175                 180
```

<210> 26
<211> 183
<212> PRT
<213> Homo sapiens

<400> 26

```
Met Glu Arg Val Gln Pro Leu Glu Glu Asn Val Gly Asn Ala Ala Arg
1               5                   10                  15

Pro Arg Phe Glu Arg Asn Lys Leu Leu Leu Val Ala Ser Val Ile Gln
            20                  25                  30

Gly Leu Gly Leu Leu Leu Cys Phe Thr Tyr Ile Cys Leu His Phe Ser
        35                  40                  45

Ala Leu Gln Val Ser His Arg Tyr Pro Arg Ile Gln Ser Ile Lys Val
    50                  55                  60

Gln Phe Thr Glu Tyr Lys Lys Glu Lys Gly Phe Ile Leu Thr Ser Gln
65                  70                  75                  80

Lys Glu Asp Glu Ile Met Lys Val Gln Asn Asn Ser Val Ile Ile Asn
                85                  90                  95

Cys Asp Gly Phe Tyr Leu Ile Ser Leu Lys Gly Tyr Phe Ser Gln Glu
            100                 105                 110

Val Asn Ile Ser Leu His Tyr Gln Lys Asp Glu Glu Pro Leu Phe Gln
        115                 120                 125

Leu Lys Lys Val Arg Ser Val Asn Ser Leu Met Val Ala Ser Leu Thr
    130                 135                 140

Tyr Lys Asp Lys Val Tyr Leu Asn Val Thr Thr Asp Asn Thr Ser Leu
```

```
145                 150                 155                 160

Asp Asp Phe His Val Asn Gly Gly Glu Leu Ile Leu Ile His Gln Asn
                165                 170                 175

Pro Gly Glu Phe Cys Val Leu
            180


<210>  27
<211>  865
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (15)..(845)

<400>  27
cagcagagac gagg atg tgc gtg ggg gct cgg cgg ctg ggc cgc ggg ccg       50
               Met Cys Val Gly Ala Arg Arg Leu Gly Arg Gly Pro
               1               5                   10

tgt gcg gct ctg ctc ctc ctg ggc ctg ggg ctg agc acc gtg acg ggg       98
Cys Ala Ala Leu Leu Leu Leu Gly Leu Gly Leu Ser Thr Val Thr Gly
        15                  20                  25

ctc cac tgt gtc ggg gac acc tac ccc agc aac gac cgg tgc tgc cac      146
Leu His Cys Val Gly Asp Thr Tyr Pro Ser Asn Asp Arg Cys Cys His
    30                  35                  40

gag tgc agg cca ggc aac ggg atg gtg agc cgc tgc agc cgc tcc cag      194
Glu Cys Arg Pro Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln
45                  50                  55                  60

aac acg gtg tgc cgt ccg tgc ggg ccg ggc ttc tac aac gac gtg gtc      242
Asn Thr Val Cys Arg Pro Cys Gly Pro Gly Phe Tyr Asn Asp Val Val
                65                  70                  75

agc tcc aag ccg tgc aag ccc tgc acg tgg tgt aac ctc aga agt ggg      290
Ser Ser Lys Pro Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly
            80                  85                  90

agt gag cgg aag cag ctg tgc acg gcc aca cag gac aca gtc tgc cgc      338
Ser Glu Arg Lys Gln Leu Cys Thr Ala Thr Gln Asp Thr Val Cys Arg
        95                  100                 105

tgc cgg gcg ggc acc cag ccc ctg gac agc tac aag cct gga gtt gac      386
Cys Arg Ala Gly Thr Gln Pro Leu Asp Ser Tyr Lys Pro Gly Val Asp
    110                 115                 120

tgt gcc ccc tgc cct cca ggg cac ttc tcc cca ggc gac aac cag gcc      434
Cys Ala Pro Cys Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala
125                 130                 135                 140

tgc aag ccc tgg acc aac tgc acc ttg gct ggg aag cac acc ctg cag      482
Cys Lys Pro Trp Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln
                145                 150                 155

ccg gcc agc aat agc tcg gac gca atc tgt gag gac agg gac ccc cca      530
```

```
Pro Ala Ser Asn Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro
            160                 165                 170

gcc acg cag ccc cag gag acc cag ggc ccc ccg gcc agg ccc atc act      578
Ala Thr Gln Pro Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr
        175                 180                 185

gtc cag ccc act gaa gcc tgg ccc aga acc tca cag gga ccc tcc acc      626
Val Gln Pro Thr Glu Ala Trp Pro Arg Thr Ser Gln Gly Pro Ser Thr
    190                 195                 200

cgg ccc gtg gag gtc ccc ggg ggc cgt gcg gtt gcc gcc atc ctg ggc      674
Arg Pro Val Glu Val Pro Gly Gly Arg Ala Val Ala Ala Ile Leu Gly
205                 210                 215                 220

ctg ggc ctg gtg ctg ggg ctg ctg ggc ccc ctg gcc atc ctg ctg gcc      722
Leu Gly Leu Val Leu Gly Leu Leu Gly Pro Leu Ala Ile Leu Leu Ala
                225                 230                 235

ctg tac ctg ctc cgg agg gac cag agg ctg ccc ccc gat gcc cac aag      770
Leu Tyr Leu Leu Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys
            240                 245                 250

ccc cct ggg gga ggc agt ttc cgg acc ccc atc caa gag gag cag gcc      818
Pro Pro Gly Gly Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala
        255                 260                 265

gac gcc cac tcc acc ctg gcc aag atc tgacctgggc ccaccaaggt            865
Asp Ala His Ser Thr Leu Ala Lys Ile
    270                 275
```

<210> 28
<211> 277
<212> PRT
<213> Homo sapiens

<400> 28

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Met Cys Val Gly Ala Arg Arg Leu Gly Arg Gly Pro Cys Ala Ala Leu
1               5                   10                  15

Leu Leu Leu Gly Leu Gly Leu Ser Thr Val Thr Gly Leu His Cys Val
            20                  25                  30

Gly Asp Thr Tyr Pro Ser Asn Asp Arg Cys Cys His Glu Cys Arg Pro
        35                  40                  45

Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln Asn Thr Val Cys
    50                  55                  60

Arg Pro Cys Gly Pro Gly Phe Tyr Asn Asp Val Val Ser Ser Lys Pro
65                  70                  75                  80

Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly Ser Glu Arg Lys
                85                  90                  95

Gln Leu Cys Thr Ala Thr Gln Asp Thr Val Cys Arg Cys Arg Ala Gly
            100                 105                 110

Thr Gln Pro Leu Asp Ser Tyr Lys Pro Gly Val Asp Cys Ala Pro Cys
```

```
        115                 120                 125

Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp
    130                 135                 140

Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln Pro Ala Ser Asn
145                 150                 155                 160

Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro Ala Thr Gln Pro
                165                 170                 175

Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr Val Gln Pro Thr
            180                 185                 190

Glu Ala Trp Pro Arg Thr Ser Gln Gly Pro Ser Thr Arg Pro Val Glu
        195                 200                 205

Val Pro Gly Gly Arg Ala Val Ala Ala Ile Leu Gly Leu Gly Leu Val
    210                 215                 220

Leu Gly Leu Leu Gly Pro Leu Ala Ile Leu Leu Ala Leu Tyr Leu Leu
225                 230                 235                 240

Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly
                245                 250                 255

Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp Ala His Ser
            260                 265                 270

Thr Leu Ala Lys Ile
        275


<210>  29
<211>  1599
<212>  DNA
<213>  Homo sapiens


<220>
<221>  CDS
<222>  (67)..(1596)

<400>  29
ccacaccaag cagcggctgg ggggggggaaa gacgaggaaa gaggaggaaa acaaaagctg     60

ctactt atg gaa gat aca aag gag tct aac gtg aag aca ttt tgc tcc       108
       Met Glu Asp Thr Lys Glu Ser Asn Val Lys Thr Phe Cys Ser
       1               5                   10

aag aat atc cta gcc atc ctt ggc ttc tcc tct atc ata gct gtg ata      156
Lys Asn Ile Leu Ala Ile Leu Gly Phe Ser Ser Ile Ile Ala Val Ile
15                  20                  25                  30

gct ttg ctt gct gtg ggg ttg acc cag aac aaa gca ttg cca gaa aac      204
Ala Leu Leu Ala Val Gly Leu Thr Gln Asn Lys Ala Leu Pro Glu Asn
                35                  40                  45

gtt aag tat ggg att gtg ctg gat gcg ggt tct tct cac aca agt tta      252
Val Lys Tyr Gly Ile Val Leu Asp Ala Gly Ser Ser His Thr Ser Leu
            50                  55                  60
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tac atc tat aag tgg cca gca gaa aag gag aat gac aca ggc gtg gtg      300
Tyr Ile Tyr Lys Trp Pro Ala Glu Lys Glu Asn Asp Thr Gly Val Val
        65                  70                  75

cat caa gta gaa gaa tgc agg gtt aaa ggt cct gga atc tca aaa ttt      348
His Gln Val Glu Glu Cys Arg Val Lys Gly Pro Gly Ile Ser Lys Phe
    80                  85                  90

gtt cag aaa gta aat gaa ata ggc att tac ctg act gat tgc atg gaa      396
Val Gln Lys Val Asn Glu Ile Gly Ile Tyr Leu Thr Asp Cys Met Glu
95                  100                 105                 110

aga gct agg gaa gtg att cca agg tcc cag cac caa gag aca ccc gtt      444
Arg Ala Arg Glu Val Ile Pro Arg Ser Gln His Gln Glu Thr Pro Val
                115                 120                 125

tac ctg gga gcc acg gca ggc atg cgg ttg ctc agg atg gaa agt gaa      492
Tyr Leu Gly Ala Thr Ala Gly Met Arg Leu Leu Arg Met Glu Ser Glu
            130                 135                 140

gag ttg gca gac agg gtt ctg gat gtg gtg gag agg agc ctc agc aac      540
Glu Leu Ala Asp Arg Val Leu Asp Val Val Glu Arg Ser Leu Ser Asn
        145                 150                 155

tac ccc ttt gac ttc cag ggt gcc agg atc att act ggc caa gag gaa      588
Tyr Pro Phe Asp Phe Gln Gly Ala Arg Ile Ile Thr Gly Gln Glu Glu
    160                 165                 170

ggt gcc tat ggc tgg att act atc aac tat ctg ctg ggc aaa ttc agt      636
Gly Ala Tyr Gly Trp Ile Thr Ile Asn Tyr Leu Leu Gly Lys Phe Ser
175                 180                 185                 190

cag aaa aca agg tgg ttc agc ata gtc cca tat gaa acc aat aat cag      684
Gln Lys Thr Arg Trp Phe Ser Ile Val Pro Tyr Glu Thr Asn Asn Gln
                195                 200                 205

gaa acc ttt gga gct ttg gac ctt ggg gga gcc tct aca caa gtc act      732
Glu Thr Phe Gly Ala Leu Asp Leu Gly Gly Ala Ser Thr Gln Val Thr
            210                 215                 220

ttt gta ccc caa aac cag act atc gag tcc cca gat aat gct ctg caa      780
Phe Val Pro Gln Asn Gln Thr Ile Glu Ser Pro Asp Asn Ala Leu Gln
        225                 230                 235

ttt cgc ctc tat ggc aag gac tac aat gtc tac aca cat agc ttc ttg      828
Phe Arg Leu Tyr Gly Lys Asp Tyr Asn Val Tyr Thr His Ser Phe Leu
    240                 245                 250

tgc tat ggg aag gat cag gca ctc tgg cag aaa ctg gcc aag gac att      876
Cys Tyr Gly Lys Asp Gln Ala Leu Trp Gln Lys Leu Ala Lys Asp Ile
255                 260                 265                 270

cag gtt gca agt aat gaa att ctc agg gac cca tgc ttt cat cct gga      924
Gln Val Ala Ser Asn Glu Ile Leu Arg Asp Pro Cys Phe His Pro Gly
                275                 280                 285

tat aag aag gta gtg aac gta agt gac ctt tac aag acc ccc tgc acc      972
Tyr Lys Lys Val Val Asn Val Ser Asp Leu Tyr Lys Thr Pro Cys Thr
            290                 295                 300
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aag aga ttt gag atg act ctt cca ttc cag cag ttt gaa atc cag ggt     1020
Lys Arg Phe Glu Met Thr Leu Pro Phe Gln Gln Phe Glu Ile Gln Gly
        305                 310                 315

att gga aac tat caa caa tgc cat caa agc atc ctg gag ctc ttc aac     1068
Ile Gly Asn Tyr Gln Gln Cys His Gln Ser Ile Leu Glu Leu Phe Asn
    320                 325                 330

acc agt tac tgc cct tac tcc cag tgt gcc ttc aat ggg att ttc ttg     1116
Thr Ser Tyr Cys Pro Tyr Ser Gln Cys Ala Phe Asn Gly Ile Phe Leu
335                 340                 345                 350

cca cca ctc cag ggg gat ttt ggg gca ttt tca gct ttt tac ttt gtg     1164
Pro Pro Leu Gln Gly Asp Phe Gly Ala Phe Ser Ala Phe Tyr Phe Val
                355                 360                 365

atg aag ttt tta aac ttg aca tca gag aaa gtc tct cag gaa aag gtg     1212
Met Lys Phe Leu Asn Leu Thr Ser Glu Lys Val Ser Gln Glu Lys Val
            370                 375                 380

act gag atg atg aaa aag ttc tgt gct cag cct tgg gag gag ata aaa     1260
Thr Glu Met Met Lys Lys Phe Cys Ala Gln Pro Trp Glu Glu Ile Lys
        385                 390                 395

aca tct tac gct gga gta aag gag aag tac ctg agt gaa tac tgc ttt     1308
Thr Ser Tyr Ala Gly Val Lys Glu Lys Tyr Leu Ser Glu Tyr Cys Phe
    400                 405                 410

tct ggt acc tac att ctc tcc ctc ctt ctg caa ggc tat cat ttc aca     1356
Ser Gly Thr Tyr Ile Leu Ser Leu Leu Leu Gln Gly Tyr His Phe Thr
415                 420                 425                 430

gct gat tcc tgg gag cac atc cat ttc att ggc aag atc cag ggc agc     1404
Ala Asp Ser Trp Glu His Ile His Phe Ile Gly Lys Ile Gln Gly Ser
                435                 440                 445

gac gcc ggc tgg act ttg ggc tac atg ctg aac ctg acc aac atg atc     1452
Asp Ala Gly Trp Thr Leu Gly Tyr Met Leu Asn Leu Thr Asn Met Ile
            450                 455                 460

cca gct gag caa cca ttg tcc aca cct ctc tcc cac tcc acc tat gtc     1500
Pro Ala Glu Gln Pro Leu Ser Thr Pro Leu Ser His Ser Thr Tyr Val
        465                 470                 475

ttc ctc atg gtt cta ttc tcc ctg gtc ctt ttc aca gtg gcc atc ata     1548
Phe Leu Met Val Leu Phe Ser Leu Val Leu Phe Thr Val Ala Ile Ile
    480                 485                 490

ggc ttg ctt atc ttt cac aag cct tca tat ttc tgg aaa gat atg gta     1596
Gly Leu Leu Ile Phe His Lys Pro Ser Tyr Phe Trp Lys Asp Met Val
495                 500                 505                 510

tag                                                                 1599
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Ile Leu Ala Ile Leu Gly Phe Ser Ser Ile Ile Ala Val Ile Ala Leu
            20                  25                  30

Leu Ala Val Gly Leu Thr Gln Asn Lys Ala Leu Pro Glu Asn Val Lys
        35                  40                  45

Tyr Gly Ile Val Leu Asp Ala Gly Ser Ser His Thr Ser Leu Tyr Ile
    50                  55                  60

Tyr Lys Trp Pro Ala Glu Lys Glu Asn Asp Thr Gly Val Val His Gln
65                  70                  75                  80

Val Glu Glu Cys Arg Val Lys Gly Pro Gly Ile Ser Lys Phe Val Gln
                85                  90                  95

Lys Val Asn Glu Ile Gly Ile Tyr Leu Thr Asp Cys Met Glu Arg Ala
            100                 105                 110

Arg Glu Val Ile Pro Arg Ser Gln His Gln Glu Thr Pro Val Tyr Leu
        115                 120                 125

Gly Ala Thr Ala Gly Met Arg Leu Leu Arg Met Glu Ser Glu Glu Leu
    130                 135                 140

Ala Asp Arg Val Leu Asp Val Val Glu Arg Ser Leu Ser Asn Tyr Pro
145                 150                 155                 160

Phe Asp Phe Gln Gly Ala Arg Ile Ile Thr Gly Gln Glu Glu Gly Ala
                165                 170                 175

Tyr Gly Trp Ile Thr Ile Asn Tyr Leu Leu Gly Lys Phe Ser Gln Lys
            180                 185                 190

Thr Arg Trp Phe Ser Ile Val Pro Tyr Glu Thr Asn Asn Gln Glu Thr
        195                 200                 205

Phe Gly Ala Leu Asp Leu Gly Gly Ala Ser Thr Gln Val Thr Phe Val
    210                 215                 220

Pro Gln Asn Gln Thr Ile Glu Ser Pro Asp Asn Ala Leu Gln Phe Arg
225                 230                 235                 240

Leu Tyr Gly Lys Asp Tyr Asn Val Tyr Thr His Ser Phe Leu Cys Tyr
                245                 250                 255

Gly Lys Asp Gln Ala Leu Trp Gln Lys Leu Ala Lys Asp Ile Gln Val
            260                 265                 270

Ala Ser Asn Glu Ile Leu Arg Asp Pro Cys Phe His Pro Gly Tyr Lys
        275                 280                 285

Lys Val Val Asn Val Ser Asp Leu Tyr Lys Thr Pro Cys Thr Lys Arg
    290                 295                 300

Phe Glu Met Thr Leu Pro Phe Gln Gln Phe Glu Ile Gln Gly Ile Gly
305                 310                 315                 320
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Asn Tyr Gln Gln Cys His Gln Ser Ile Leu Glu Leu Phe Asn Thr Ser
325 330 335

Tyr Cys Pro Tyr Ser Gln Cys Ala Phe Asn Gly Ile Phe Leu Pro Pro
340 345 350

Leu Gln Gly Asp Phe Gly Ala Phe Ser Ala Phe Tyr Phe Val Met Lys
355 360 365

Phe Leu Asn Leu Thr Ser Glu Lys Val Ser Gln Glu Lys Val Thr Glu
370 375 380

Met Met Lys Lys Phe Cys Ala Gln Pro Trp Glu Glu Ile Lys Thr Ser
385 390 395 400

Tyr Ala Gly Val Lys Glu Lys Tyr Leu Ser Glu Tyr Cys Phe Ser Gly
405 410 415

Thr Tyr Ile Leu Ser Leu Leu Leu Gln Gly Tyr His Phe Thr Ala Asp
420 425 430

Ser Trp Glu His Ile His Phe Ile Gly Lys Ile Gln Gly Ser Asp Ala
435 440 445

Gly Trp Thr Leu Gly Tyr Met Leu Asn Leu Thr Asn Met Ile Pro Ala
450 455 460

Glu Gln Pro Leu Ser Thr Pro Leu Ser His Ser Thr Tyr Val Phe Leu
465 470 475 480

Met Val Leu Phe Ser Leu Val Leu Phe Thr Val Ala Ile Ile Gly Leu
485 490 495

Leu Ile Phe His Lys Pro Ser Tyr Phe Trp Lys Asp Met Val
500 505 510

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1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser
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